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DETERMINANTS AND CONSEQUENCES OF SME GROWTH STRATEGIES: RESOURCES, INSTITUTIONS AND PERFORMANCE

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DETERMINANTS AND CONSEQUENCES OF SME GROWTH STRATEGIES: RESOURCES, INSTITUTIONS AND PERFORMANCE

DOCTORAL DISSERTATION

by

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RESUMEN

El objetivo de esta tesis doctoral es contribuir a nuestro conocimiento sobre los determinantes e implicaciones de las estrategias de crecimiento de las PYMEs. Basada tanto en la perspectiva de la Teoría de Recursos y Capacidades como en la de la Teoría Institucional, examinamos tres preguntas de investigación. (1) ¿Cuál es la relación entre las capacidades tecnológicas, recursos financieros y capacidades relacionales con la estrategia de crecimiento que utiliza (orgánica, por adquisiciones o híbrida, respectivamente) y qué efecto tienen el régimen de propiedad intelectual, el acceso al crédito y la confianza entre empresas en ella? (2) ¿Cuál es la relación entre las estrategias de crecimiento y el desempeño de las empresas en términos de supervivencia a largo plazo, rentabilidad a corto plazo y posición competitiva, y qué efecto tienen el régimen de propiedad intelectual y confianza entre empresas en ella? (3) ¿Cuál es la relación entre la intensidad de las capacidades relacionales y el resultado que se obtiene de colaborar con otra empresa del mismo sector, tomando en cuenta el efecto de la estrategia de crecimiento híbrido como mediador? Utilizamos datos obtenidos de 450 respuestas obtenidas en la aplicación de entrevistas cara a cara con directores generales de empresas en el sector de electrónica, tecnología, información y comunicaciones en México, y aplicamos diferentes técnicas estadísticas. Los resultados soportan la mayoría de las relaciones propuestas. Se discuten las implicaciones y las direcciones para futuras investigaciones.

ABSTRACT

The objective of this doctoral dissertation is to contribute to our knowledge about the determinants and implications of SMEs growth strategies. Based on both Resource Based View and Institutional Theory perspectives, we examine three research questions. (1) What is the relationship between an SME's technological capabilities, financial resources, and networking capabilities with the growth strategy it follows (organic, acquisitive, or hybrid, respectively) and what effect do intellectual property regime, access to credit, and interfirm trust have on it? (2) What is the relationship between the growth strategies and the firms' performance in terms of long term survival, short term profitability, and competitive position, and what effect do intellectual property regime and interfirm trust have on it? (3) What is the relationship between the intensity of the networking capabilities and the outcome obtained when collaborating with another firm in the same sector, taking into account the effect of the hybrid growth strategy as mediator on it? We use data gathered from 450 responses provided by face-to-face interviews with CEOs in the Electronics, Technology, Information, and Communications sector in México, and apply different statistical techniques. The results support most of the proposed relationships. Implications and future research directions are discussed.

RESUM

L'objectiu d'aquesta tesi doctoral és contribuir al nostre coneixement sobre els determinants i implicacions de les estratègies de creixement de les Pimes. Basada tant en la perspectiva de la Teoria de Recursos i capacitats com en la de la Teoria Institucional, examinem tres preguntes de recerca. (1) Com és la relació entre les capacitats tecnològiques, recursos financers i capacitats relacionals amb l'estratègia de creixement que utilitza (orgànica, per adquisicions o híbrida, respectivament) i quin efecte tenen el règim de propietat intel·lectual, l'accés al crèdit i la confiança entre empreses en ella?. (2) Com és la relació entre les estratègies de creixement i l'acompliment de les empreses en termes de supervivència a llarg termini, rendibilitat a curt termini i posició competitiva, i quin efecte tenen el règim de propietat intel·lectual i confiança entre empreses en ella? (3) Com és la relació entre la intensitat de les capacitats relacionals i el resultat que s'obté de col·laborar amb una altra empresa del mateix sector, prenent en compte l'efecte de l'estratègia de creixement híbrid com a mediador? Utilitzem dades obtingudes de 450 respostes obtingudes en l'aplicació d'entrevistes cara a cara amb Directors generals d'empreses en el sector d'electrònica, tecnologia, informació i comunicacions a Mèxic, i apliquem diferents tècniques estadístiques. Els resultats suporten la majoria de les relacions proposades. Es discuteixen les implicacions i les adreces per a futures recerques.

CHAPTER 1

DISSERTATION INTRODUCTION

1. Introduction and Problem Statement

Firm growth has been a subject of interest to both academics and practitioners for decades. The seminal work by Edith Penrose, published in 1959, proposes that the ability of the firm to grow is due to its productive opportunity set, which is determined by the way the firm uses its resources. In this sense, it is important to realize that growth is not the norm, most firms start small, live small, and die small (Davidsson et al., 2006), many of them not even managing to survive. Despite the great amount of studies done about firm growth, it is still a research topic of substantial interest for researchers, because the opportunity for business growth has changed, as a result of advances in technology, transportation, and communication, among other things. The ability to capitalize on these factors depends on a great amount of factors, both internal to the firm; such as the allocation of resources (Moreno & Casillas, 2007), firm strategies (Pasanen, 2007), and communication tools (Feindt et al., 2002), and external to it; such as high levels of unemployment (Capelleras et al., 2016), government policies (Pasanen, 2007), confidence in the rule of law (Tonoyan et al., 2010), and economic regulation (Capelleras et al., 2008). Firm growth is viewed as desirable in several ways. Monetarily, it generates greater profit for those who have invested money in the firm. Growth allows firms to employ more people, bringing increased wealth to an area. The more a firm grows, the more opportunities it has to create diverse products and services that can augment sustainability and benefit, not only the immediate people, but the institutional environment globally as well.

The interest of scholars in SMEs' growth, particularly in the last decade, is due to their critical role in job creation and immense contribution to net growth. They play an important role in the economy (Storey, 1994; Davidsson & Delmar, 1997); most of the new jobs are created by existing SMEs (Davidsson et al., 1993). "*SMEs make a remarkable contribution to regional economic development. They are often the only feasible engines of development, especially in peripheral regions. They generate societal growth in terms of new jobs and revenues. SMEs create innovations, and they form flexible production networks"* (Pasanen, 2003, p. 13). The type of SME and the capability for innovation it has are relevant to the impact of an SME's growth, as "*empirical evidence notes a positive effect between firm growth and innovation that differs according to firm characteristics, the nature of market selection and the geographical environment"* (Audretsch et al., 2014, p. 745).

Numerous papers have been written and researchers have attempted to explain the differences in firm growth and performance attributable to differences in the firms' resources. Unfortunately, due to the broadness of the concept, this is not possible. This is shown in the conclusion of the literary review done by Macpherson & Holt, (2007, p. 186): "*We should also note that, given that the impetus behind using systematic reviews is the provision of sound evidence bases upon which future research can be directed, it is somewhat ironic that our findings suggest such a base to reveal a myriad of often asymmetric relationships between entrepreneurs, customers, advisors, technologies that cannot be confined by a single set of classifications or recommendations"*. Based on Edith Penrose's (1959) *Theory of the Growth of the Firm*, the researchers' purpose is to predict both a firm's growth and performance based on the variables and factors that affect it, but the predictive, explanatory extent the models have is rather low (McKelvie & Wiklund, 2010; Wright & Stigliani, 2012).

Recent studies have tried to expand the study of different growth patterns (Baum et al., 2001; Delmar et al., 2003; Davidsson et al., 2006; Shepherd & Wiklund, 2009; McKelvie & Wiklund, 2010). "*We argue that the 'how' aspect of growth is a necessary and fundamental question that needs to be better understood before we can turn our attention to how much a firm grows*" (McKelvie & Wiklund, 2010, p. 261).

Due to this call, some authors have followed this line of research with their papers, like Pasanen (2007), who identified strategic factors differentiating two types of growth firms, organic and acquisitive growth SMEs. Another example is the work by Lockett et al. (2011), in which, based on the Resource-Based View (RBV), they analyzed the sequencing of growth strategies and discovered the effect of previous rates of organic and acquisitive growth on a firm's future growth. We decided to follow this research stream, recognizing that growth is not unidimensional and that the growth strategies are a bridge between the firms' resources and capabilities and their effect on performance. The growth strategies analyzed here are organic (also known as internal growth), acquisitive (also known as external growth), and hybrid (which takes elements from the both) (McKelvie & Wiklund, 2010). Each growth strategy is different, therefore the resources and capabilities they use are different as well (Chandler & Hanks, 1994). Previous studies have shown the different effects that technological capabilities, financial resources, and the networking capabilities have over new venture growth strategies (Chen et al., 2009) and their effects on the firms' performance, in terms of long term survival, short term profitability (Dvir & Shenhar, 1992; Haber & Reichel, 2005), and competitive position (Morris et al., 2007; Zou et al., 2010).

Aside from the effect of the internal factors' allocation, we discovered that these relations are affected by institutional factors, which have been analyzed by other authors (Baumol, 1990;

Gnyawali & Fogel, 1994). Specifically, institutional effects through the evolution of political and economic institutions stimulate or inhibit the firms' growth and performance (North, 1990; Ahlstrom & Bruton, 2002; Bruton et al., 2010). The evolution of institutions has been diverse, depending on the geographic and cultural context of each country or region. For the case of Latin America, in contrast to the United States, after all the countries' political revolutions, the processes and institutions are controlled centrally (North, 1991). In this sense, firms in Latin America, especially SMEs, face difficult challenges in order to grow. Previous studies showed that, in these economies, external factors, such as macroeconomic conditions and public policies, may affect a firm's growth (Capelleras & Rabentino, 2008). This paper's empirical study was done with Mexican firms. According to Hofstede's analysis (2016), Mexico ranks high in workforce, yet somewhat low in innovation. It both benefits and suffers from its proximity to the United States. Mexico has a growing middle class and energy reserves and ranks as a highly stratified, hierarchical nation with low individualism (Hofstede, 2016). Taking this into consideration, we considered important to analyze the moderating effect of the institutional factors in relations between the respective resources and capabilities associated with different growth strategies and the impact they have over the firms' performance. Based on previous works, we selected the intellectual property regime (Candelin-Palmqvist et al., 2012), access to credit (Carpenter & Petersen, 2002), and interfirm trust in a business (Franco & Haase, 2010) as institutional factors that moderate the antecedents and consequences of an SME's growth strategies.

To further analyze SME growth strategies' and due to the proliferation of recent papers on different forms of hybrid growth (Gulati, 1998; Jacob et al., 2013; Scarbrough et al., 2013; Panibratov & Latukha, 2014; Partanen et al., 2014; Zhang & Wu, 2014; Bouncken et al., 2015)

and the outcomes obtained by cooperative arrangements (Butler et al., 2007; Balestrin et al., 2008; Clarysse et al., 2011), we decided to analyze the relation between the networking capabilities and two different outcomes of cooperative arrangements, in which there are different levels of commitment while collaborating. The first outcome is when two firms in the same sector collaborate to develop a new product involving technology transfer, collaboration that involves a high level of commitment (Wessel, 2004; Ettlie & Pavlou, 2006). The second is when two firms in the same sector collaborate to outsource peripheral activities while looking to reduce costs, collaboration that involve a low level of commitment (Agarwal & Ergun, 2008; Vitasek & Manrodt, 2012). We pay close attention to identifying the existence of the mediating effect that hybrid growth strategy has over these relations.

2. Objective of the Dissertation and Research Questions

The main objectives of this investigation are the following:

- To examine the relations between resource endowment and the firms' capabilities and the growth strategy they follow, as well as the effect of some institutional factors as moderators
- To identify how the growth strategy selected by a firm is related with the SME's performance, as well as the effect of some institutional factors as moderators
- To analyze the relation between networking capabilities and the outcomes of different types of collaboration, as well as the effect of a hybrid growth strategy as a mediator over this relation

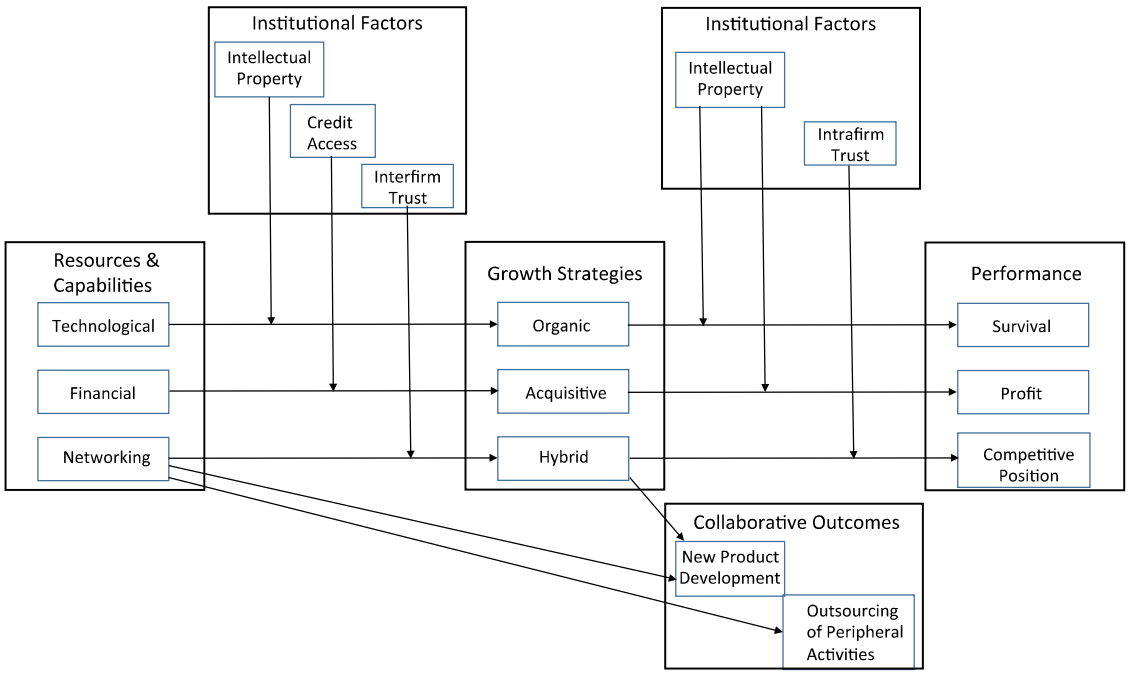
In this doctoral dissertation, I address three research essays attempting to respond to different research questions: (1) What is the relation between an SME's technological capabilities, financial resources, and networking capabilities with the growth strategy it follows (organic,

acquisitive, or hybrid, respectively) and what effect do intellectual property regime, access to credit, and interfirm trust have over it? (2) What is the relation between the growth strategies and the firms' performance in terms of long term survival, short term profit, and competitive position, and what effect do intellectual property regime and interfirm trust have over it? (3) What is the relation between the intensity of networking capabilities and the outcome obtained when collaborating with another firm in the same sector, considering the effect of the hybrid growth strategy as mediator over it?

To answer the first research question, building on the RBV and the Institutional Theory (IT), we selected three growth strategies, based on previous research (McKelvie & Wiklund, 2010). We believe that each growth strategy uses different resources and capabilities and has different implications on firm growth, consequently generating different managerial challenges (Penrose, 1959; Chandler & Hanks, 1994; Lockett et al., 2011); we believe some institutional factors moderate positively these relations. Addressing the second research question, we agree with previous studies saying that the choice of a growth strategy also affects the firms' performance (Zou et al., 2010). To measure the firms' performance in large firms, it is common to use objective data, but it is difficult to obtain in an SME. Because of this, we chose to use the objectives and aspiration levels of the CEOs seek to reach and the risk level they are willing to undertake (Covin & Slevin, 1989) as our measures. With this, we identified three groups by subjective perceptual measures, which also match the growth strategies. Additionally, we argue that some institutional factors moderate positively the relation between growth strategies and the firms' performance. Regarding the third research question and due to the amount of articles that have recently studied both the interfirm collaborative relations (Todeva & Knoke, 2005) and hybrid growth (McKelvie & Wiklund, 2010), we decided to analyze the relation between the

networking capabilities and the expected outcomes of SMEs when engaging in collaborative relations with firms within the same sector, which involve different levels of commitment. Specifically, we analyzed interfirm collaborations whose expected outcome is new product development (Huang et al., 2011; Corallo et al., 2012) and those relations whose expected outcome is to outsource its peripheral activities (Agarwal & Ergun, 2008; Vitasek & Manrodt, 2012). We paid close attention to identifying the existence of the mediating effect the hybrid growth strategy has over these relations. We argue that the hybrid growth strategy mediates the relation between networking capabilities and new product development, but it does not have any effect over the relation between the networking capabilities and outsourcing the peripheral activities. The Figure 1. Conceptual framework for the entire dissertation.

Figure 1. Conceptual framework



Source: Self-elaborated

3. Theoretical Context of the Research

3.1 Resource-based view

The roots of the RBV of the firm can be seen to be based on Penrose's work (1959), who considered the firm as a set of resources. A firm's resources can be defined as all tangible and intangible assets that are tied to the firm in a relatively permanent way (Wernerfelt, 1984). The RBV, introduced by Barney (1991), presented a detailed definition of resources and articulated the full set of characteristics that make a resource a potential source of competitive advantage. Resources can be classified into human, social, physical, organizational, and financial (Greene et al., 1997). To be considered a source of competitive advantage, a firm's resources must be valuable, rare, imperfectly imitable, and irreplaceable. A firm's capabilities are defined as the way the resources are used by the firm to improve its performance (Grant, 1991). The popularity of the RBV of the firm has grown rapidly, since researchers have attempted to explain differences in firm growth by differences in firm resources (Pasanen, 2003). From the RBV, a firm's tactical and strategic decisions are influenced by its specific resource endowment (Chandler & Hanks, 1994) and competitive advantage is considered to be based on the combination of the firm's tangible and intangible resources and capabilities in order to attain its objectives (Barney, 1991; Grant, 1991). The RBV provides a framework for increasing dialogue between scholars from these important research areas within the conversation of strategic management (Mahoney & Pandian, 1992). Since the publishing of Barney's seminal work (1991), the proliferation of the resource-based research within strategic management and related disciplines has been quite extensive. According to the focus of this thesis, some relevant works are the one by Kogut & Zander (1992), in which they introduced the concept of combinative capabilities and emphasized the importance of knowledge as a resource; and the one by Oliver

(1997), in which he suggested how the RBV and the IT together can better explain sustained competitive advantage. Additionally, Ireland et al. (2003) introduced strategic entrepreneurship as recognizing how firms identify and exploit entrepreneurial opportunities, establish and sustain competitive advantages, and create wealth. In the knowledge era, the resources of an SME are both tangible and intangible assets (Barney, 2001), such as social capital (Kozan & Akdeniz, 2014) and knowledge (Chetty & Wilson, 2003). Foss & Foss (2005) built conceptual bridges between RBV and property rights for intangible assets. The resources and capabilities can be heterogeneously distributed across competing firms, so these differences can be long lasting and can help explain why some firms outperform others (Barney & Arikan, 2001). Recent works have shown that superior firm performance incorporates both resource-based and product market dynamics (Barney, 2014). The RBV is used by strategic management scholars, and increasingly by entrepreneurship scholars, to identify and explain growth and performance differences between firms (Barney & Arikan, 2001; Mosakowski, 2002; Thomas et al., 2002). We argue that each growth strategy uses different sets of resources and capabilities (Chandler & Hanks, 1994). In order to answer the research questions, we selected from the existing literature three sets of resources and capabilities related to the growth strategies. The first are technological resources (De Kluyver, 1977), which take into account all resources related to research and development, such as patents, algorithms, and trade secrets. The second are financial resources (McCann, 1991; Levie, 1997), which include the retained earnings of the firm, the credit lines it has access to, and the experience in stock allocation. The third are related to networking capabilities (Williamson, 1991), which include both personal ties with relatives, friends, and school friends and the firms' ties with chambers, colleges, and professional associations.

3.2 Institutional theory

North's (1990) institutional economic theory states that institutions are rules defined by the society to structure and encourage human interchange, which can be political, social, or economic. The evolution of institutions reflects the way societies evolve. According to North (1991, p. 97): "*Institutions are the humanly devised constraints that structure political, economic and social interaction*".

Economic activities are influenced by the formal and informal institutional environment in which they occur (Williamson, 1975; Baumol, 1990; North, 1990). The formal institutional environment is based on government policies, laws, and general regulations, like constitutions, regulations, contracts, economic rules, property rights, and laws. The informal institutional environment is based on sociocultural factors, traditions, and more and is related with both the individuals' characteristics and the society's attitudes as values, in other words, the culture of a specific society (North, 1991). Growth is related to the effect whereby political and economic institutions, both formal and informal, promote regional development of the economic environment that then stimulates or inhibits the growth and productivity of firms (North, 1991; Gnyawali & Fogel, 1994; Bruton et al., 2010; Scott, 2014). Institutions, through the establishment of the rules of the game, play a key role in determining whether firms will be allocated in productive or unproductive directions, and this can significantly affect t productivity growth. The fulfillment and trust in the legal system in any economy are prime determinants of the profitability of activities (Baumol, 1990). For both previously established and for new firms, institutional factors help or prevent finding business opportunities. If the institutional conditions are favorable, there is a stimulus for businessmen to seize business opportunities within the institutional environment. The institutional factors contribute to enhancing the businessmen's

capability to start and manage a business (Gnyawali & Fogel, 1994). The institutional factors' effect on growth and performance changes from one country to another (Ahlstrom & Bruton, 2002). The firms' challenge is to develop the capability of reacting to the institutional factors to get a better position in a premeditated way, instead of solely considering the institutional factors as barriers for growth outside their control (Aldrich & Fiol, 1994; Ahlstrom & Bruton, 2002). Historically, it has been shown that the allocation and the management of resources are necessary factors for business success (Hansen & Wernerfelt, 1989; Barney, 1991; Barney et al., 2011). Additionally, it is clear that issues such as culture, legal environment, tradition and history in an industry, and economic incentives, can impact an industry and, in turn, a firm's success (Bruton et al., 2010). There are plenty of institutional factors that affect growth strategies' relations with the resources and capabilities of the firms. To answer these research questions, we selected the rights and intellectual property protection (Beck et al., 2005), access to credit (Carpenter & Petersen, 2002), and interfirm trust (Rus & Iglic, 2005).

3.3 Growth strategies

There are several definitions of strategy, among which we found: "*A strategy is the pattern of plan that integrates an organization´s major goals, policies and action sequences into a cohesive whole. A well-formulated strategy helps marshal and allocate an organization´s resources into a unique and variable posture based upon its relative internal competencies and shortcoming, anticipated changes in the environment, and contingent moves by intelligent opponents*" (Grant, 2008, p. 17). In this definition, it is defined as the alignment of a firm's resources facing external factors. That is why we believe that the selection of a strategy should be related to the endowment of specific resources within the firm, which, in turn, is affected by specific institutional factors. An example is how a firm tries to respond with the adequate allocation of its

resources and capabilities when detecting an environmental market opportunity (Pasanen, 2007). Previous studies, such as Weinzimmer's (2000), found out that a competitive-level strategy is a determinant of a firm's growth. Several growth strategies have been presented in the entrepreneurship literature (Pasanen, 2007). From the growth management approach, it is possible to classify growth strategies into three types, each one with its different characteristics. Edith Penrose (1959) established a clear distinction between two of them. The first is internal growth, also called organic, which refers to the strategic focus on internal research and development, applied to product development, enhancements, and extensions (McCann, 1991). It is usually associated with genuine job creation (Pasanen, 2007). The second is external growth, also called acquisitive, which refers to forward or backward integration. It is more common in older firms (Levie, 1997) and more mature industries (Henrekson & Johansson, 2010). Acquisitive growth is often known as a shift of jobs from one firm to another (Pasanen, 2007). The third growth strategy combines elements from both organic and acquisitive growth (Williamson, 1991) and is called a hybrid growth strategy. It can be defined as "*contractual relationships that bind external actors to the firm at the same time as the firm maintains a certain amount of ownership and control over how any assets are used*" (McKelvie & Wiklund, 2010, p.274). It can take a number of forms, including franchising, licensing, alliances, and joint ventures (McCann, 1991; Levie, 1997). Some of these forms have more presence depending on the sector in which it occurs. In hospitality sectors, franchising is an important form of growth (Combs & Ketchen, 2003). In manufacturing and distribution processes, licensing is a common strategy, especially among young firms that need complementary assets (Arora et al., 2001). In technological sectors, alliances and joint ventures help the firms share risks. "*Technological or research-based alliances essentially bring together the specific and oftentimes tacit skills to*

collaborate on developing new technologies. This saves other firms from investing time and resources into risky technology development." (McKelvie & Wiklund, 2010, p. 275).

The three growth strategies can differ systematically (Davidsson & Delmar, 1997) and are determined by the intentions and objectives of the firm (McKelvie & Wiklund, 2010). We consider relevant to emphasize this in three key aspects. First, Penrose leads to the conclusion that the choice between organic and acquisitive (extensive to hybrid) growth is a strategic one, and that the three processes are fundamentally different in many aspects; each growth strategy requires a specific endowment of the different resources and capabilities (R&C). Second, the importance of carrying out this classification is that different growth strategies have different implications on firm performance and, consequently, different managerial challenges (Penrose, 1959; Lockett et al., 2011). Third, there are institutional factors that moderate the relationship between growth strategies and the firms' R&C and its effect on firm performance.

As previously mentioned, growth based on resources has been studied throughout the years. In this process of being studied, different milestones and discoveries have been made. The Table 1 shows, in chronological order, some advances that have been made regarding this and by whom these advances were made. In the same way, advances in the area of the strategies followed by the firms have been made. In the Table 2, we organized chronologically some of the contributions made in this field and that are relevant to this dissertation.

Table 1. Progress in the research about growth based on resources

	Main idea	Study
1	Firms need to adapt to crises arisen from growth. Being unable of doing so is one of the main causes of firm failure.	Greiner (1972; 1998)
2	Firms in different growth environments require different strategies.	Chaganti (1987)
3	He studied an SME's growth through the psychological perspective.	Davidsson (1989a)
4	There are three main strategies: build, or vertical integration; expand, or product differentiation; and maintain, or market dominance.	Dsouza (1990)
5	The orientation for growth and the resources are conditions necessary for growth to happen.	Davidsson (1991)
6	He made one of the most complete compilations of results regarding studies about small firms.	Storey (1994)
7	Acquisitive growth is mostly present in larger firms.	Anslinger & Coperland (1996)
8	The specific characteristics of both managers and firms and business strategies affect small firm growth.	Barkham et al. (1996)
9	Firm success and growth is understood in different forms, either through reaching the maximum potential or through getting to a comfort zone.	Bridge et al. (1998)
10	The most important determinant for firm growth is the strategy of the firm.	Weinzimmer (2000)
11	The main reason for SMEs not to grow is the aversion to the same growth.	Clark et al. (2001)
12	He presented four growth strategies: organic growth; acquisition; strategic alliance; and joint venture.	Thompson (2001)

Source: Self-elaborated

Table 2. Progress in the research about strategies

	Main idea	Study
1	Organic growth is related to internal expansion and improvement.	McCann (1991)
2	The main focus of internal investment is improving the existing products and expansion of new technology.	Zahra (1991)
3	The technological advances are based on the knowledge gathered and the ability to apply it in the long term.	Bell & Pavitt (1995)
4	The firms need to establish an appropriate strategy to survive and grow.	Bhide (1996)
5	There is a relation between the characteristics of the entrepreneur and the type of growth he/she chooses to follow.	Anderson (2003)
6	Each growth strategy poses a different challenge and has different effects over a firm's performance.	Delmar et al. (2003)
7	Acquisitive growth is based on purchases and shifts in jobs.	Pasanen (2007)
8	There are different indicators for growth, as well as different ways to obtain it.	Achtenhagen et al. (2010)
9	Firms that grow by purchasing others tend to be older, larger.	Henrekson & Johansson (2010)
10	There are different growth strategies that are better suited for different firms according to certain characteristics, such as size.	McKelvie & Wiklund (2010)
11	It was shown how identifying opportunities helps growth, and failing to do so slows growth down.	Hamilton (2012)
12	The endowment of resources in different areas is related to different forms of growth.	Wright & Stigliani (2012)

Source: Self-elaborated

4. General Context of the Research and Structure of the Thesis

The influence of the context over the businesses' activities is relevant and varies to a greater or lesser extent depending on the evolution of the formal and informal institutions in each nation (North, 1990). If we explore Mexican culture, we find that it is a collectivist, highly hierarchical society (Hofstede, 2016). Its strengths are a young workforce and its proximity to the U.S., while high levels of corruption and an intensifying war with drug dealers are its weaknesses. The legal system in Mexico is particularly bureaucratic and the solution of conflicts between firms tends to take longer than in developed countries. The intellectual property protection regime is still in development. Therefore, even though most SMEs' CEOs accept the importance of intellectual property in theory, in practice few of them actually invest resources in it, preferring to establish high-trust bonds with other firms or individuals. With respect to financing resources, there are few alternative financing resources, such as angel investors or venture capital, compared to developed countries. Financing is expensive and the requirements and guarantees to grant a credit are not very appealing to SMEs.

Previous studies have shown that innovation and firm growth in Mexico depend on both internal resources and environmental, institutional factors, such as honesty, relocation ease, innovation, physical infrastructure, collaboration, and interfirm trust (Lemus et al., 2015). To perform this empirical study, we selected the Electronic, Technology, Information, and Communication sector (ETICS) in Mexico, because it is one of the fastest growing sectors in the past decade, currently with over 50,000 employees. 2,095 firms and, recipient of 4.560 billion USD of direct investment in the last decade. Firms from this sector are usually established in urban areas due to access to key financial, technological, human and knowledge related resources (Capelleras et al., 2013).

To answer the thesis's hypotheses, we developed a questionnaire adapted from the model used in different studies. Once the questionnaire was defined, we performed a pilot trial and its results helped us correct the wording of some items. After the corrections and through two collaborative agreements with industrial association that clustered 99% of the firms in the sector, we administered the questionnaire through face-to-face interviews with the firms' CEOs from the 450 SMEs in the sample. SMEs are, according to the Secretary of Economy, those firms with up to 250 employees and annual sales of up to 15 million dollars. Our sample matched the geographical representativeness. To perform the statistical tests in the first two essays, we conducted ordinal least square regression analysis, while for the third essay we used a binomial logit model.

This study is divided into five chapters. Briefly, the contents of the remaining chapters are as follows. In chapters 2 to 4, the empirical findings are presented. Chapter 2 presents the research findings of the relation between the endowment of the SMEs' resources and capabilities and the growth strategy preferred by them. We also identify the institutional factors that moderate the relation. In chapter 3 we show the relation between growth strategies and the firms' performance while also identifying the moderating effect of some institutional factors. In chapter 4 we analyze the relation between the networking capabilities and the expected outcomes from the collaborations between firms in the same sector while analyzing the mediating effect of a hybrid growth strategy. Finally, chapter 5 summarizes the main contributions of this study and underscores the major conclusions and implications. The limitations of this study are also presented, along with some suggestions for further research. Table 3 shows the dissertation's summary.

Table 3. Dissertation overview

Essay	One	Two	Three
Research questions	• Is the selection of the SMEs strategic decisions based on specific sets of resources? • Are there institutional factors that moderate the relation between resource endowment and the selection of a growth strategy?	• Is the selection of the SMEs performance objectives based on specific growth strategies? • Are there institutional factors that moderate the relation between a growth strategy and a firm's performance?	• Are the networking capabilities related to the expected outcomes from the collaborative relations with firms within the same sector? • How should the relation between networking capabilities and different outcomes of collaborations be mediated by the hybrid growth strategy?
Theoretical framework	• Resourced-Based View • Institutional Theory	• Resourced-Based View • Institutional Theory	• Network theory
Research designs	• Quantitative study • Survey from 450 Mexican SMEs • Ordinal least Square regression analysis	• Quantitative study • Survey from 450 Mexican SMEs • Ordinal least Square regression analysis	• Quantitative study • Survey from 450 Mexican SMEs • Binomial logit model
Key findings	• There is a direct relation between technological resources and organic growth, financial resources to acquisitive growth, and relational resources to hybrid growth. • Interfirm trust has a positive moderating effect in the relationship between technological resources and hybrid growth; credit access moderates positively the relationship between financial resources and acquisitive growth.	• There is a direct relation between organic growth to low risk-survival objectives, acquisitive growth to high risk-profit objectives, and hybrid growth to neutral risk-competitive position objectives. • Intellectual Property has a positive moderating effect in the relation between organic growth and low risk-survival objectives; interfirm trust has a positive moderating effect in the relation between hybrid growth and neutral risk-competitive position objectives.	• The strength of networking capabilities in SMEs increases the likelihood of taking part in co-opetition relations. • The hybrid growth strategy is a mediating variable between the networking capabilities and the collaboration of firms in the same sector to develop of new products. • A hybrid growth strategy does not have a mediating effect on the networking capabilities and the collaboration of firms in the same sector to do outsourcing of peripheral activities.

Source: Self-elaborated

CHAPTER 2

ESSAY 1- FIRM CAPABILITIES AND GROWTH STRATEGIES: THE MODERATING ROLE OF INSTITUTIONAL FACTORS

ABSTRACT

Building on the RBV and the IT, we decided to study the factors- both internal and external- that affect the choice between different growth strategies in SMEs in an emerging economy. We started identifying that there is a direct relation between technological resources and organic growth, financial resources and acquisitive growth, and networking capabilities and hybrid growth. We argue that the intensity of these relations are moderated by institutional factors, such as a country's intellectual property protection, credit access, and interfirm trust, respectively. We base our findings on 450 face-to-face surveys with CEOs from firms in the ETICS in Mexico. Managerial implications are also discussed in the paper, as well as future lines of research. [1]

1. Introduction

Firm growth has been widely studied over the past decades, and even now it remains a subject of great interest among academics, managers, and policy makers (Gilbert et al., 2006; Wiklund et al., 2009; McKelvie & Wiklund, 2010). Since the publication of *Theory of the Growth of the Firm* in 1959 by Edith Penrose, most researches have been focused on predicting and describing differences in growth rates by analyzing different variables and factors that affect growth, yet almost all empirical models of growth have low explanatory and predictive power (McKelvie & Wiklund, 2010; Wright & Stigliani, 2012).

[1] This paper was presented at the 76th Making Organizations Meaningful Annual Meeting, on July 4th, 2016. We are thankful for the observations and comments from both anonymous reviewers as well as the conference attendees.

In recent years, small firm growth has captivated the attention of researchers (Gilbert et al., 2006; Wiklund et al., 2009; Henrekson & Johansson, 2010). It has been studied with different approaches, but most previous empirical studies only try to identify the reasons why a firm may grow more than others (Baum et al., 2001; Davidsson et al., 2006; McKelvie & Wiklund, 2010). Based on those studies we noticed that there is a substantial heterogeneity in both the theoretical framework and the amount of factors associated with firm growth (McKelvie & Wiklund, 2010). Most of the SMEs growth research focuses mainly in the growth's variability, regarding the quantity while ignoring the different patterns of growth (Delmar et al., 2003; Davidsson et al., 2006).

Because of this, the most recent researches on firm growth have widened the study of different growth patterns (Pasanen, 2007). An example of this is the work by (Lockett et al., 2011), who analyzed the growth strategies' sequencing to discover the influence of organic and acquisitive growths' rates over the future growth. Other authors identified the effect that an SME's different internal characteristics, such as scale of operation, firm age, and product's and customer's structures (Pasanen, 2007), or their size (Brenner & Schimke, 2015), have on the growth strategies.

Our work focuses on this line of research and, attending McKelvie & Winklund's calling (2010), we decided to analyze the antecedents of growth strategies. Built on the RBV (Barney, 1991), our starting point is that specific R&C are associated with different growth strategies (Chen et al., 2009; Zou et al., 2010). Choosing a specific growth strategy generates different challenges for the management of the firm (Delmar et al., 2003). We selected three growth strategies, based on previous researches (McKelvie & Wiklund, 2010). We believe that the growth strategies require and use different R&C (Chandler & Hanks, 1994). Firms pursuing organic growth are likely to place emphasis on technological resources (De Kluyver,

1977); firms pursuing acquisitive growth have strong financial resources (McCann, 1991; Levie, 1997); firms pursuing hybrid growth focus on strong networking capabilities (Williamson, 1991).

Once identified the relation between the R&C and the growth strategies and using the IT's approach, we identified that some institutional factors also affect a company's growth, just as discussed in previous works (Baumol, 1990; Pasanen, 2007). In this sense, some emerging economies with weak institutions are particularly characterized by having unstable environments and more unexpected changes of the general circumstances than the developed economies do (North, 1990; Bruton et al., 2010; Diaz & Vassolo, 2010). Some studies in Latin American economies show that external, institutional factors, such as macroeconomic conditions and public policies, may affect a firm's growth (Capelleras & Rabentino, 2008). Basing ourselves on previous studies that analyze the institutional factors' effects on the firms' growth, we selected the intellectual property regime (Candelin-Palmqvist et al., 2012) as a moderating factor in the relation between technological resources and organic growth. Similarly, we consider that the access to credit (Carpenter & Petersen, 2002) is an institutional factor that moderates the relation between financial resources and acquisitive growth. Also, we argue that interfirm trust (Franco & Haase, 2010) moderates the relation between the networking capabilities and hybrid growth.

There are few studies that analyze both the internal and the institutional factors and the effect they have over the decision-making process for the growth paths (Pasanen, 2007). In our model, growth strategies are influenced by institutional factors associated with a firm's resource endowment: the greater the resources allocated into the firm, the greater its growth will be, according to the growth strategy chosen. We use the RBV's approach and the IT as the analytical framework.

This work focuses on SMEs in the ETICS in Mexico, because we consider it a relevant subject due to the lack of studies analyzing growth strategies in Latin American economies and that, despite the recurrent crisis, the sector has shown a continuous growth. We used a self-developed database with 450 observations, result of face-to-face surveys with the SMEs' CEOs in the year 2014. We expect this study to help better understand the antecedents of the growth strategies followed by the Latin American SMEs.

This article is organized as follows: first, the literature review examines the previous theoretical and empirical literature on the topic. Next, the hypotheses are stated. Then, we describe the data and the variables and we present the results. Finally, we discuss our results and highlight the conclusions, future research lines, and limitations of our work.

2. Theory and Literature Review

2.1 Growth strategies

During the last decades, different approaches to study growth have been developed, and so they have opened several ways to study it. There is no single theory that can explain firm growth (Weinzimmer, 2000; Dobbs & Hamilton, 2007; Macpherson & Holt, 2007). Firm growth in general refers to an increase in size. Most of the growth studies are related to one or more theoretical perspectives to derive hypotheses for empirical testing. An example of this is the work by Wiklund & Sheperd (2009), in which they analyzed a series of factors that affect a firm's growth from five different perspectives: entrepreneurial orientation, environment, strategic fit, resources, and attitude. There is a considerable amount of empirical studies and most of them use independent variables to predict differences in growth rates across firms and to examine the aspects that increase or limit growth (Zahra, 1996; Davidsson & Delmar, 1997; Weinzimmer, 1997; Achtenhagen et al. 2010). Even though there have been attempts to

develop an integrative model of small firm growth, the results show that there is a low concurrent validity for a number of growth measures and a high variability among them over time (Wiklund et al., 2009). Previous works' results share the conclusion that models are typically only able to explain a limited portion of the differences in growth among firms, as shown in the work by (McKelvie & Wiklund, 2010), in which they identified the potential empirical and theoretical explanations for why these limitations occur, such as unit of analysis, differences in modes of growth, variation in growth rates over time, indicators of growth, and differences in the willingness to grow.

Using a different approach than generating new predictive models for growth, the most recent researches on firm growth have focused on analyzing growth based on different growth patterns, also known as growth strategies (Davidsson et al., 2006; Pasanen, 2007; McKelvie & Wiklund, 2010). A relevant definition we found was by Grant (2008). He stated that a strategy was a plan to allocate a firm's resources in a personalized way, based on the internal characteristics, the institutional environment's changes, and the market's opponents, to fulfill the objectives, while maintaining the policies of the firm. Based on this definition, we believe that the growth strategy chosen should be aligned with different institutional factors. This process is similar to that when a firm perceives a business opportunity (Pasanen, 2007).

From all the growth strategies, we selected three. The difference between two of them was made by Edith Penrose (1959). The first is organic growth. According to McCann (1991), it is about growing internally through research and development. The second is acquisitive growth. This strategy is more common in older, more mature firms (Levie, 1997; Henrekson & Johansson, 2010) and it deals with changing assets and jobs between firms (Pasanen, 2007). The third strategy is hybrid growth, which takes elements from the other two strategies (Williamson, 1991). McKelvie & Wiklund (2010) defined it as using external actors to aid

oneself while maintaining the control of the assets invested. Since each strategy is different and follows different objectives and intentions (Davidsson & Delmar, 1997; McKelvie & Wiklund, 2010), we believe that the selection of the growth strategy should be strategic, because they need a different endowment of R&C and are influenced by the institutional environment of the firm. Growth strategies are not mutually exclusive. We identify them as preferences in specific growth mechanisms related to the allocation and combination of resources of the firm, in contrast with other authors that see them as a choice between different ways to attain growth. Penrose (1959) suggested that there are limits to both organic and acquisitive growth: "*The significance of merger [and acquisition] can best be appraised in the light of its effect on and limits to internal growth*" (Penrose, 1959, p. 4). The limit for organic growth is when firms establish routines that limit their capacity to combine resources (Nelson & Winter, 1982). Therefore, for this analysis, we consider that, by preferring a growth strategy, the intensity of the others is reduced.

2.2 Firm resources and capabilities

A firm's resources are all the assets controlled by the firm itself (Wernerfelt, 1984) and a firm's capabilities are defined as the way the resources are used by the firm to improve its performance. The RBV assumes that each organization is a collection of unique R&C, firms acquire different resources and develop unique capabilities based on how they combine and use the resources by following a defined strategy (Grant, 1991), influenced by the individual perceptions about opportunities and the entrepreneurs' skills (Capelleras et al., 2013). Not all of the firm's R&C have the potential to be the foundation of the firm's growth. There are three types of resources: tangible, such as equipment, land, and financial; intangible, such as technology, trade secrets, and reputation; and human, such as know-how, capacity for

communication and collaboration, and motivation (Grant, 2008). One of the main challenges for SMEs' managers is to properly allocate their resources to develop a competitive advantage (Barney, 1991).

There is a considerable number of studies that analyze the relation between the firm's R&C and their effect in the firm's growth (Gibb & Davies, 1990; Smallbone et al., 1995; Keogh & Evans, 1999; Churchill & Mullins, 2001; O'Gorman, 2001; Correa et al., 2003; Davidsson et al., 2006;). Particularly, as stated previously, organic growth focuses on internal research and development, applied to product development. Therefore, it is necessary that it has strong technological R&C, such as patents, algorithms, and trade secrets, in order to achieve product breakthroughs (Zahra, 1996). Similarly, the acquisitive growth focuses on the integration, both vertical and horizontal. Therefore, it is necessary to have strong financial resources. Finally, hybrid growth focuses in establishing partnerships and other forms of association, allowing the SMEs to participate in markets that would otherwise be inaccessible to them. Because of this, it is considered essential for the firms to develop networking capabilities in order to grow (Kogut & Zander, 1992); the capability to build alliances has become an important factor to grow (Kale & Singh, 2009).

In recent years, the relations between specific factors and growth strategies have been analyzed in the works by Chen et al. (2009) and Zou et al., (2010). Nevertheless, we consider that said relations are affected by institutional factors from the firm's environment. Thus we extended previous works by analyzing the moderating factor the institutional factors have with the help of the IT.

2.3 Institutional factors

According to the IT, institutions regulate the political, social, and economic interactions, either through formal factors, such as laws and property rights, or through informal factors, such as traditions, customs, and codes of conduct (North, 1991). Applying this to a firm, the firm growth is influenced by institutional conditions, as it has been studied in the past (Gnyawali & Fogel, 1994; Bruton et al., 2010; Scott, 2014).

Some of the previous studies did analyze firm growth and its relation with institutional factors, such as rights and intellectual property protection (Beck et al., 2005), access to credit (Carpenter & Petersen, 2002), institutional and interpersonal trust in SME development (Rus & Iglic, 2005), government support programs (Keogh & Evans, 1999; Becchetti & Trovato, 2002; Delmar et al., 2003; Fuller-Love, 2006), national cultural factors (Anderson, 2003), and adverse regional conditions, like unemployment, that can be barriers for firms' growth (Capelleras et al., 2016), or the urban/rural context where the firms are located (Capelleras et al., 2013). Most of the authors studying this issue agree that the institutional environment affects the businesses' operations (Aidis, 2005; Rus & Iglic, 2005; Dickson et al., 2006; Gilman & Edwards, 2008; Hessels & Terjesen, 2008; Capelleras et al., 2010, 2016; Franco & Haase, 2010).

By analyzing the relation between the R&C and the growth strategies, we discovered that organic growth is related to the endowment of technological R&C (Zou et al., 2010). Especially in high-tech industries, the development and acquisition of technological resources are expensive processes. Additionally, the knowledge protection is of great importance (Candelin-Palmqvist et al., 2012). If the environment offers a credible compromise to guarantee the property rights over time, the cost of protection decreases. Regarding acquisitive growth, we discovered that it is related to the financial R&C of the firm (Zou et

al., 2010). An environment with multiple sources of financing provides the firms more options that contribute to the reduction of capital cost in the acquisitions (Levie & Autio, 2008). We also discovered that the hybrid growth is related to the networking capabilities. The cost of protecting oneself from the opportunistic behavior (Gulati, 1998) is related to the level of interfirm trust (Kitching & Blackburn, 1999).

Depending on the geographical and cultural contexts of a region, institutions evolve differently. In Latin America there is a centralization of the processes and institutions, which is a characteristic of some Western economies (North, 1991). We selected the intellectual property protection (IPP), credit access, and interfirm trust as factors that have a positive effect in the regulation of the connection between the R&C and the growth strategies.

3. Hypotheses Development

3.1 Resources and growth strategies

As we have mentioned before, growth strategies are different processes, requiring different managerial resources and capabilities. Different theoretical papers, such as the one by Gilbert et al. (2006), have pointed out that the growth strategies depend on the different allocation and combinations of resources done by the firms. We consider the technological resources and capabilities (TR&C) as the set of resources and capabilities that allow a firm to make effective use of the technical knowledge and skills, including the absorptive capacity. TR&C are among the fundamental determinants of success in the high-technology industry (Kogut & Zander, 1992; Liao et al., 2003). TR&C measure the firm's ability to either develop or improve products or services or optimize its production processes (Kuivalainen & Megdad, 2005). TR&C are the result of the absorption of the firm's research and development outcomes by the company (Bell & Pavitt, 1995). TR&C are not mobile or easy to transfer

resources. Since they have to stay at the firm, they encourage it to grow internally. Internal growth requires SMEs to possess advanced technological capabilities to have product breakthroughs (Zahra, 1996).

Due to the above, the firms that assign resources to their processes and their technological products and have the capability of making them productive will tend to grow in an organic way (Lockett et al., 2011). Previous works found that firms in emerging economies invest in TR&C when pursuing internal growth (Zou et al., 2010). When allocating resources to acquisition of TR&C, the availability of funds is reduced for other acquisitions (Bamiatzi & Kirchmaier, 2014). Therefore, we hypothesize:

H1 The endowment of technological capabilities is positively related to organic growth strategy.

Financial capital has been considered essential for the growth of firms (Barney, 1991; Grant, 1991). Access to financial capital is arguably the most widely recognized factor as a promoter of business growth (Levie & Autio, 2008). Financial resources have been studied by scholars, due to their ease of being transformed into other kinds of resources (Correa et al., 2003; Delmar et al., 2003; Davidsson et al., 2006; Autio & Acs, 2010). We define financial resources as all the firm's resources that enable or constrain the strategic growth decisions of the firm (Gilbert et al., 2006). Most of the young SMEs may not have financial resources to buy other businesses, while the older and wealthier firms can grow by acquisitions (Levie, 1997; Pasanen, 2007). Usually, the SMEs that grow by acquisitions are larger and older than firms growing organically (Delmar et al., 2003; Wiklund et al., 2003), since their consolidated processes and strong financial resources help them purchase an existing business (Becchetti & Trovato, 2002; Carpenter & Petersen, 2002; Beck et al., 2005). Still, acquisitive growth can also be a mechanism to attract external advanced technology (Jones et al., 2001). Penrose

considered the acquisitive growth's antecedents to be the organic growth's limits: "*The significance of merger [and acquisition] can best be appraised in the light of its effect on and limits to internal growth"* (Penrose, 1959, p. 5).

Previous empirical works found that firms with sufficient financial capital can choose aggressive external growth directions (Zou et al., 2010). Empirical studies have shown that 10% of the ventures grew primarily through acquisitions (Delmar et al., 2003).

Therefore, we can hypothesize:

> *H2 The endowment of financial resources is positively related to acquisitive growth strategy.*

The evolution of information systems has facilitated communication between firms, which has contributed to an increase of relations as hybrid forms of growth. With this form, firms work together and share assets and profits to accomplish mutual growth. To facilitate these relations, the firm must have strong networking capabilities (Kogut & Zander, 1992). Creating some form of association allows the firm to participate in markets in which it would not be able to enter on its own (Kale & Singh, 2009). Moreover, the firms share not only profits, but risks as well. Potentially, association forms may ease the flow of resources between organizations (Dickson et al., 2006). The relation between networking capabilities and success has been intensively studied in small business literature: "*include resource-rich ties into their personal networks, such as potential suppliers and customers, since these links have been found to exert a positive effect on both speed and growth"* (Capelleras & Greene, 2008, p. 338); higher levels of networking capabilities contribute, in turn, to favor innovation (Camps & Marques, 2014) and are associated with greater firm performance (Aldrich et al., 1987; Dowling, 2003). Other researchers have also noted that successful knowledge transfer and learning through networks require specific social skills (Macpherson & Holt, 2007). The

role of the human and relational capital in the first few years of a business's life is fundamental for the SMEs' future success (Hormiga et al., 2011). Previous studies have shown that Chinese firms with various network relationships will tend to prefer partnership growth strategy above organic growth and acquisitive growth (Zou et al., 2010). Recent empirical studies (Li et al., 2008) have shown that SMEs use partner selection, governance structure, and alliance scope as substitute mechanisms to protect valuable technological assets from appropriation in R&D alliances. Because of this, we argue that firms that develop networking capabilities follow a hybrid growth strategy and we can hypothesize that:

H3 The endowment of networking capabilities is positively related to hybrid growth strategy.

3.2 Institutional factors as moderators

The institutional environment affects a firm's growth and performance in different ways. Similar firms, in fact, behave differently, due to the different perception of the institutional environment that the directors have. The availability of the information related to the institutional factors in Latin America is limited, as it has been pointed out in previous studies (Cuervo-Cazurra et al., 2014). For example, transnational firms trying to do business in Latin America need to possess in-depth knowledge of the sector and country in which they wish to get established, not only counting with the R&C needed for success (Peña-Vinces et al., 2016).

In knowledge intensive sectors (KIS), intangible assets are today's value drivers (Bollen et al., 2005). Nevertheless, one of the barriers to invest in the R&D of existing firms is the lack of a solid IPP regime (Franco & Haase, 2010). The institutional forces play an important role in the degree of investment in different internal resources (Balbinot & Bignetti, 2007).

Particularly in the technological industry, knowledge management in business is a crucial aspect to create revenue, to defend the firm's competitive position, and to survive (Candelin-Palmqvist et al., 2012). The development, sale, and licensing of knowledge takes place within an institutional environment, where a solid IPP regime works as a catalyst in the pursuit of growth through investment in technology (Herrera & Lora, 2005). Authors like La Porta (1999) have demonstrated that the efficiency and the integrity of the institutional environment affect a business's performance, and those countries with a better institutional development tend to have larger firms (Kumar et al., 1999; Beck et al., 2005). Particularly in Mexico, the IPP regime is still in development. The legal system doesn't operate at the necessary speed to avoid affecting businesses' growth negatively. Therefore, even though most of the SMEs recognize the importance of registering and protecting their intangible assets, only a few of them actually do it. The perception of managers regarding the commercialization of technological resources, like protection against patents and industrial secrets' theft, will moderate the investment in a firm's TR&C (Herrera & Lora, 2005). In summary, the IPP influences the decision about organic growth by technological resource allocation. Therefore:

> *H4 The IPP moderates positively the relationship between technological capabilities and organic growth; such that the stronger the IPP regime, the stronger this relationship is.*

For acquisitions to occur, there must be both a seller and a buyer, both of whom expect to gain from the transaction (Penrose, 1959, p. 122). In most cases, business acquisitions are made using a mix of resources compounded by their own financial resources and debt; low debt costs encourage debt-financed acquisitions (Lockett et al., 2011). SMEs are financially more constrained than large firms and are less likely to have access to formal financing (Beck et al., 2005). In emergent economies, such as the Mexican one, one of the most important

problems of an SME is related to the quality and opportuneness of the financial resources (Aidis, 2005; De Clercq et al., 2010; Franco & Haase, 2010). Access to credit is particularly restricted due to the lack of guarantees required to obtain financial resources (Aidis, 2005; Rus & Iglic, 2005). The perception of the manager about the ease of obtaining good quality financial resources will depend, aside from bank loans, on the existence of external financial capital, including informal investors, business angels, and venture capital (Franco & Haase, 2010), and will allow him to perform acquisitions. In recent years, some empirical works have demonstrated that loan rejection rates have increased sharply, and so has the level of discouragement among firms (Wright et al., 2015). Yusuf (1995) argued that access to credit and the firm's financial resources are critical factors for the SMEs' success; in some countries, the access to credit requires the firm to have networking capabilities (Witt 2004). Sometimes firms had to employ political strategies to get access to credit: "*In some countries the capacity to obtain finance may depend on family connections rather than on the willingness to pay a certain interest rate*" (Leibenstein 1968, pp 73-74). On the other hand, McCann (1991) argues that in mature firms´ capital has been obtained through a combination of public equity offerings and credit; this is particularly for acquisitions. An additional factor affecting access to credit in SMEs is that alternative forms of financing, such as crowd-funding, may be useful, but are used by few SMEs, due to a lack of guarantees and/or credit history (Wright et al., 2015). In the environment where this study was conducted, there were very few alternative sources of financing, such as angel investors or venture capital. Moreover, high commissions and interest rates characterize commercial loans from banks in Mexico, making this financing source unattractive for SMEs. Since the real estate crisis of 1996, the credit designated for SMEs has been significantly reduced, adversely affecting the business environment.

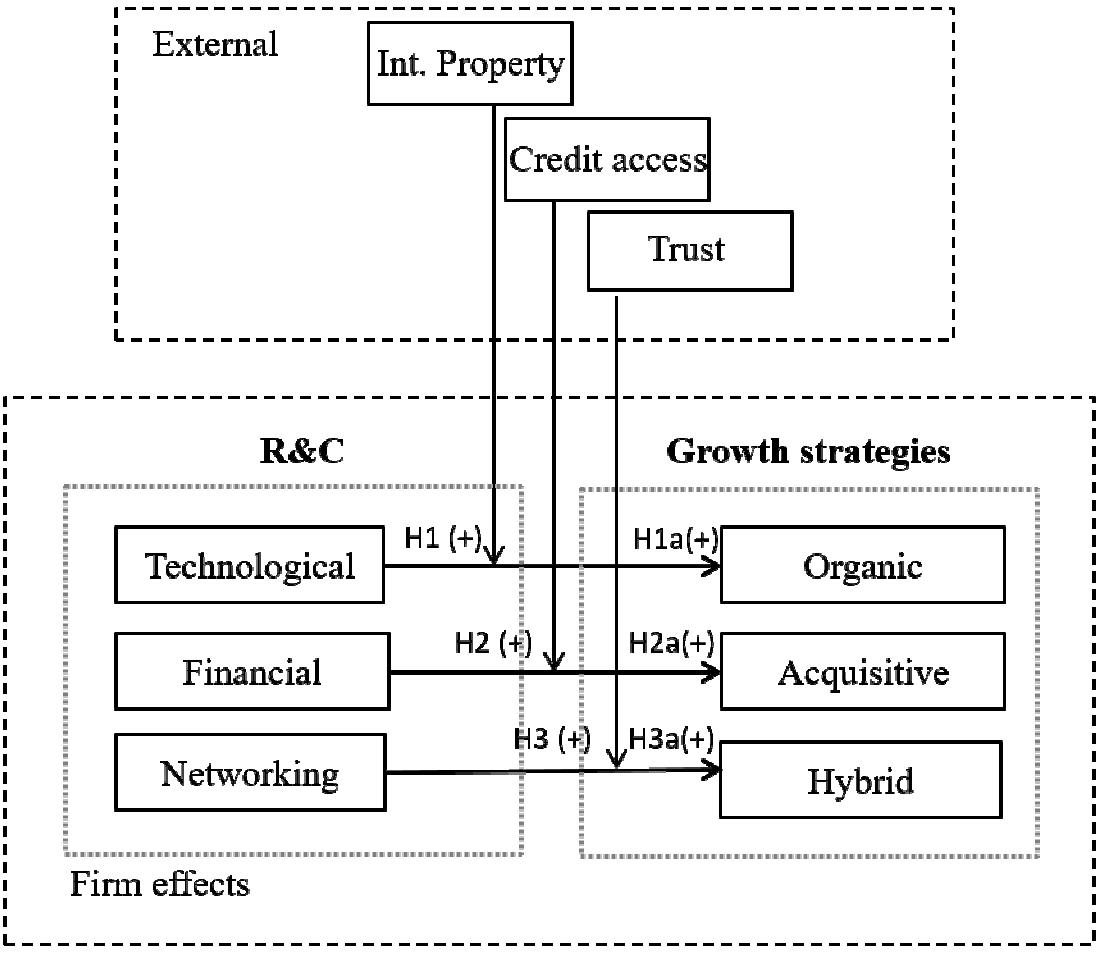
H5 Credit access moderates positively the relationship between the financial resources and the acquisitive growth strategy; such that the stronger the credit access is, the stronger this relationship is.

With regards to hybrid growth, in order to collaborate, firms need to be in harmony with their institutional conditions (Pasanen, 2007). One of the main external barriers to grow through this strategy is the owners' and managers' skepticism towards outside help (Ghobadian & Gallear, 1996). Societies with a high level of trust enable actors to base their business relationships on trust rather than contracts; in addition, when actors rely on trust, it is usually institutional trust, rather than interpersonal trust (Rus & Iglic, 2005). When a company seeks an ally, either for a short- or a long-term relation, to obtain some resource that it does not have, it often opens the firm up to the potential for opportunistic behavior (Dickson et al., 2006). To protect itself, the firm can elaborate long and complex contracts, or simply trust that its partner will not take advantage of it. If both parts receive similar benefits, the latter is cheaper and it will promote continued use of hybrid growth. Thus, interfirm trust influences the strategic decision of growth. In societies where interfirm trust is low, the cost of writing and executing the kind of complex contracts necessary to control the potential for opportunism is very high, which, in turn, affects the firms' performance (Teece, 1986). Inversely, in societies where trust promotes long-term coexistence, competitors from one sector can overcome the limitations of their individual capacities by sharing (Dickson et al., 2006). To collaborate, firms require the creation of a business environment that is growth enabling (Wright et al., 2015). Interfirm trust helps firms in collaborative arrangements strengthen their competitive position. Operating in an environment with lower costs of alliances' transactions, by substituting them with higher trust levels, would be motivating for the firms to choose hybrid growth (Kale & Singh, 2009). Interfirm trust refers to the level of

trust that a partner will not exploit the vulnerabilities of the other (Gulati, 1998), thus avoiding the potential for opportunistic behavior by alliance partners. In Mexico, an important factor is the speed with which the legal system works, since it is an additional cost to create complex contracts. Firms with high interfirm trust possess a cheaper means to look after their interests through hybrid growth than the ones that do not trust the business environment. Because of this, we hypothesize:

> *H6 Interfirm trust moderates positively the relationship between networking capabilities and the hybrid growth, such that the stronger the interfirm trust is, the stronger this relationship is.*

Figure 2. Model proposed and hypotheses



Source: Self-elaborated

4. Methodology

4.1 Data and sample

Following the recommendations made by Davidsson et al. (2006, p.387) "*…the use of homogeneous samples allows one to use operationalization that is maximally relevant for the particular type of firm or industry*", the study sample consisted of SMEs operating in the ETICS in Mexico. The ETICS industry has been one of the fastest growing sectors in Mexico in recent years; during the last 10 years it has accumulated direct investment worth 4.560 billion USD. It has generated 47.590 billion USD in exports and has created about 50,000 jobs. The analysis focused on SMEs, using the classification of the Secretary of Economy that considers as SMEs those firms that have 250 employees and annual sales of up to 250 million of Mexican pesos, or 15 million USD. The questionnaire was designed to be administered face to face to the CEOs from the firms in the sample. The questionnaire was written in Spanish, and multiple item constructs were used. In addition, experts from the sector were consulted to validate the instrument and to avoid misunderstandings in the questionnaire's wording. Most of the answers were expressed on a Likert scale, where 1=strongly disagree; 5=strongly agree. The rest are ordinal or quantitative variables. We conducted a pilot project in the city of Guadalajara and we realized the difficulty of collecting primary data. To ensure the attainment of data, we hired the firm BERUMEN S.A., which is one of the most prestigious companies in Mexico for the collection and processing of information. To collect data from the full sample we signed two cooperative agreements, the first one was made with the National Association of Computer Technology and Communications Distributors (ANADIC) and the second one with the National Chamber of Electronic, Telecommunications and Technology Industry (CANIETI); which together represent 99% of

the firms in this sector in Mexico. The universe, once the duplicates and unreachable firms were removed, was 2,095 firms all over the country, from which 1,092 (52.1%) ones are located in Mexico City, 556 (26.5%) in Guadalajara, 393 (18.7%) in Monterrey and 54 (2.6%) in other states around the country. As mentioned above, the firms from this sector are usually located in urban areas due to access to key financial, technological, human and knowledge related resources (Capelleras et al., 2013).

Each one of the three most common cities in the study, being three of the most important ones in the country, has a different context and characteristics. Mexico City is the capital of the country and covers an area of 1485 km^2. It is located in the center of the country and it is divided into 16 independent delegations. The weather is mostly mild and semi-humid and is located in a valley with different heights, the maximum height is 3930 MASL and the minimum is 2240 MASL (Mexico City's Government, 2016). According to INEGI (2015), there were 8.918 million people living there and their main economic activities are tertiary (INEGI, 2014b). Mexico City is one of the most important places of the region, being awarded "2016 #1 Touristic Site to Travel" by the New York Times and "2018 World's Design Capital" by the International Counsel of Societies for Industrial Design (ICSID) (Mexico City's Government, 2016).

The city of Guadalajara is 1560 MASL and covers an area of 2734 km^2, having a population of 5.5 million people. It is located on the western side of the country and it is the capital of the state of Jalisco (Vive Guadalajara, n.d.). Guadalajara is considered as the city with the greatest potential for foreign investment, being the fifth best future city and the second place in economic potential in North America (Secretary of Economy, 2010). In terms of economy, the state of Jalisco is the fourth most producing, having the 6.5 % of the country's GDP (INEGI, 2014a) and, according to the Secretary of Economy (2010), it received the 6.5 % of

the foreign direct investment of the country. Aside from the economy, Guadalajara is a popular place for tourism, since it has 322 architectonic monuments and 30 modern art galleries (Vive Guadalajara, n.d.).

Monterrey is known as the “industrial city of Mexico” due to its economic development. It is located in the North of the country and is the capital of Nuevo Leon state. It covers 1.2 % of the area of the state (Monterrey’s Government, n.d.) and has a population of 4.2 million people, making it the third biggest city in the country (ITESM, 2014). According to Lamudi (2016), the state of Nuevo Leon got the 21 % of the foreign direct investment and the main activity of the region is the automobile industry, generating over 3 million cars per year. Additionally, the state generated 7.3 % of the country’s GDP, being the third entity with the highest percentage (INEGI, 2014a).

Of the firm total, 90% have less than 30 employees, 65% of total are less than 10 years old. The pilot sample included 25 firms; the results helped us to correct the wording of some items. Later, we sent e-mails to the CEOs requesting their participation in this research. From the positive answers, face-to-face appointments were made with CEOs in Mexico City, Guadalajara, and Monterrey; in the rest of the cities the contact and survey were made by telephone. A team of 11 professionals was trained to conduct the surveys and they developed the application of surveys for 12 weeks. In the total sample, there were 450 valid responses, from which 40% were firms located in Mexico City, 28% in Guadalajara, 23% in Monterrey, and 9% throughout the rest of the country, ensuring representativeness of the sample respect to the universe. The characteristics of the CEOs are presented in Table 4.

Table 4. Sample characteristics

	Frequency	%
CEO Nationality		
Mexican	446	99.1
Non Mexican	4	0.9
CEO Sex		
Male	352	78.2
Female	98	21.8
CEO Highest educational degree		
Elementary school	1	0.2
High school	95	21.1
Technical	73	16.2
College	238	52.9
Master/PhD	41	9.1
None	2	0.4
CEO Additional Management Courses		
Yes	133	29.6
Not	314	69.8
Unanswered	3	0.7
CEO Age		
Less than 20 years	1	0.2
Between 20 and 30	127	28.2
Between 30 and 40	136	30.2
Between 40 and 50	113	25.1
Between 50 and 60	58	12.9
Between 60 and 70	11	2.4

	Frequency	%
Business Cycle		
Early Stage	26	5.8
Initial Growth Stage	126	28
Growth Stage	240	53.3
Mature Stage	55	12.2
Unanswered	3	0.7
Company age until 2014		
Between 1 and 5	153	34
Between 5 and 10	124	27.6
Between 10 and 15	76	16.9
More than 15	97	21.6
Number of employees during 2014		
Less than 30	402	89.3
Between 30 and 60	22	4.9
Between 60 and 100	10	2.2
Between 100 and 200	12	2.7
More than 200	4	0.9
Business Sales during 2014 (million pesos)		
Less than 1	177	39.3
Between 1 and 20	201	44.7
Between 20 and 40	14	3.1
Between 40 and 60	2	0.4
Between 60 and 80	3	0.7
Between 80 and 100	5	1.1
Between 100 and 120	3	0.7

Table 4. Sample characteristics (continued)

More than 70 years	4	0.9	Between 120 and 140	1	0.2
			Between 140 and 160	2	0.4
Family Business			More than 160	2	0.4
Yes	249	55.3	Unanswered	41	9.1
Not	201	44.7			
Company Location					
Mexico City	181	40.2			
Monterrey	103	22.9			
Guadalajara	125	27.8			
Other	41	9.1			

Source: Self-elaborated

4.2 Variables

The selection of variables included in the study was made taking into account previous studies. All the questions used were translated to Spanish. We presented the questionnaire to both academics from the business area and directors of the business chambers in which the survey was applied. We also ran a pilot test to ensure the understanding of the questions and the measures' validity and accuracy. The variables measured are presented below, starting with the description of the dependent variables.

Growth strategies: the growth forms proposed by McKelvie & Wiklund (2010) were used in the survey. Two items represented organic growth strategy. The first one related the firm's growth and internal development, both physical and human. The second item reflected the firm's growth based on research and development of new products, in pursuit of continuous innovation. The acquisitive growth strategy was also represented by two items and was measured by the firms' acquisition of other firms or business units, both in related and unrelated businesses. Similarly, the hybrid growth strategy contained two items. The first related a firm's growth with licensing (buying or selling) technology to or from other firms.

The second related growth with the establishment of any kind of partnership contracts, such as franchising, licensing, and joint ventures.

Technological capabilities: They included the assets and the ability to make effective use of technological knowledge, in addition to the resources invested in research and development for both product improvement and new product development (McCann, 1991). Some questions regarding the amount and importance the firm assigns to investment in R&D and new products' development were included. Also, a question about patent development and property rights was included, as well as the level of importance that the personnel's recommendations have on future tasks (Zou et al., 2010).

Financial resources: Most of the scholars agree on the availability of financial resources as a main factor for a firm's growth (Delmar et al., 2003; Wiklund et al., 2003; Davidsson et al., 2006). Nevertheless, financial resources can be related to various aspects of the firm's activities. To measure this asset, we relied on Gilbert's (2006) approach, in which this factor was related to how financial capital influences strategic decisions in the firm. The survey addressed two issues: a) internally retained earnings and debt, and b) resources obtained from public equity offerings and financial intermediaries.

Networking capabilities: They included all the partnership relations of the firm: internal and external links, including personal networks. The items asked about interpersonal (friends, family members, colleagues) and interfirm (government agencies, professional associations, investors) relationships based on strong ties. (Fu et al., 2006).

IPP: It included four questions. The first was related to the perception of the adequate protection of the intellectual property by the Mexican legal system. The second was if it is thought that the level of intellectual property protection had increased in the last decade. The third was about whether the intellectual protection regime had an influence on the decision of

to acquire intangible assets. The fourth asked if the strategic role of property's rights had increased in the firm (Bontis, 1998).

Credit Access: It included general questions about the adequacy of the financial system, as well as specific questions about credit access and the ease with which the required paperwork to apply for a credit could be gathered (Rus & Iglic, 2005).

Interfirm trust: Since this is a broad concept, for this paper, we narrowed it down to the trust between firms, the trust given by the legal environment to do business with other firms, and the trust that firms have on their business partners and, in the same way, with their clients (Rus & Iglic, 2005).

It is important to clarify that the moderating effect of the last three variables, IPP, credit access, and interfirm trust, was analyzed by forming two groups. The first group included the companies that have a high perception and the second, the ones that have a low perception of each variable. This division was done for each variable individually. To separate the sample, it was necessary to perform a similar analysis to the median split used in previous works (Autio & Acs, 2010). Still, because the variables were measured by multiple items, we calculated the mean of the items as the value for the corresponding variable (Wu et al., 2012) and we divided the groups according to the medium value. Respondents above the mean were classified as high perception and those below, as low perception of each institutional factor.

Control variables: Prior studies have utilized firm age and firm size measured by the number of employees as control variables (McCann, 1991; Davidsson & Delmar, 1997; Wiklund et al., 2003). We also considered the type of firm, whether it is family firm or not, as a control variable.

5. Statistical Analysis and Results

5.1 Statistical analysis

Two exploratory factor analyses (EFA) were developed using SPSS; both use the maximum likelihood extraction method and VARIMAX rotation. The first corresponded to items related to internal (R&C) and external (institutional) factors of the firms; the second one related all the items related to growth strategies.

The results of the first EFA showed the existence of six factors that we named, technological, financial, networking, intellectual property, credit access, and interfirm trust, which was consistent with the expected model solutions. Likewise, the results of the second EFA of all items of growth strategies, showed the existence of three conceptual growth strategies, organic, acquisitive and hybrid. Both the Kaiser-Meyer-Olkin statistic and the Bartlett's Test of Sphericity yielded satisfactory results. All communalities were above 0.5. The cumulative variance represented by all the sets of factors was over 73% (appendix I). The correlations and descriptive statistics for the factors estimated and control variables are presented in Table 5. As can be seen for the first 9 variables, the average was zero and the standard deviation was 1, since the variables calculated from the EFA considered an orthogonal rotation. Table 5 shows that there was no correlation between the independent variables.

Reliability tests were carried out to ensure that the scales in the questionnaire produced consistent results for the variables. The Cronbach’s alpha of all of the constructs was above 0.70, which shows there is a satisfactory reliability of the scales. Discriminant and convergent validity tests were conducted to test the validity of all of the measures used. Convergent validity can be tested with a measurement model. To test the convergent validity of the measurement model, a confirmatory factor analysis (CFA) was conducted using AMOS 22,

which resulted in a satisfactory model, χ^2_{288}=1.592, incremental fit index (IFI) = 0.976, normal fit index (NFI) = 0.938, comparative fit index (CFI) = 0.976, and root mean square error of approximation (RMSEA) = 0.036. Thus, convergent validity was achieved. Discriminant validity was also achieved by conducting Chi-square difference tests, whereby correlations between pairs of constructs were freely estimated and then constrained to one. In each instance, a significant lower Chi-square in the base model was obtained, indicating satisfactory discriminant validity (Bagozzi & Yi, 2012). All the results obtained for the coefficients of factor loadings are significant ($p < 0.001$) (see appendix II). Appendix III shows the measurement model.

Table 5. Means, standard deviations, and correlations of antecedents of growth strategies

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Organic growth	1										
2. Acquisitive growth	0	1									
3. Hybrid growth	0	0	1								
4. TR&C	0.666**	0.054	.065	1							
5. Financial resources	0.099*	0.256**	0.111*	0	0	1					
6. Networking capabilities	-0.146**	0.013	0.593**	0	1						
7. IPP	0.250**	0.086	0.009	0	0	0	1				
8. Credit access	-0.025	0.608**	0.002	0	0	0	0	1			
9. Interfirm trust	0.058	-0.047	0.300**	0	0	0	0	0	1		
10. Firm age	-0.050	0.169	0.025	-0.020	0.050	-0.073	0.11	0.176**	0.060	1	
11. Firm size (number of employees)	0.015	0.153*	0.047	0.035	0.072	0.017	-0.110*	0.022	0.106*	-0.056	1
Mean	0	0	0	0	0	0	0	0	0	8.32	17.10
Standard deviation	1	1	1	1	1	1	1	1	1	6.02	36.13

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

a. Listwise N=450

Source: Self-elaborated

As previously mentioned, we recognize that growth strategies are not mutually exclusive. The discrete choice approach we suggest in this study assumes that a growth strategy is preferred over the other two and we established the relation between some R&C with each of the growth strategies independently. To analyze both the R&C's and the institutional factors' effect over the growth strategies, the hypotheses were tested using OLS for each growth strategy. Because of this, the results are shown in 3 different tables (Table 6 to Table 8), whereby in each table 3 models are considered. The first model only considers the control variables; the second model includes the independent variables regarding the R&C; the third model analyzes both the institutional factors' effect and the interactions' effects. The objective was to observe changes in the predictors' relationship to the dependent variable. Thus, the following three models were tested for each growth strategy independently:

$$Y_n = \beta 0 + \beta 1\ control\ variables_n + \varepsilon_n$$

$$Y_n = \beta 0 + \beta 1\ control\ variables_n + \beta 2\ resources\ and\ capabilities\ variables_n + \varepsilon_n$$

$$Y_n = \beta 0 + \beta 1\ control\ variables_n + \beta 2\ resources\ and\ capabilities\ variables_n + \beta 3\ institutional\ factor\ variable + \beta 4\ interaction + \varepsilon_n$$

Where:

Y_n = growth strategy (organic, acquisitive, or hybrid)

5.2 Results

The results revealed that firms with strong technological capabilities are positively related to the organic growth strategy (β=0.661, ρ<0.001), therefore hypothesis 1 is supported. In the same

way, firms with strong financial resources were positively related to the acquisitive growth strategy (β=0.384, ρ<0.001), thus hypothesis 2 is supported. We found that hypothesis 3 is also supported, because firms with strong networking capabilities were positively related to the hybrid growth strategy (β=0.622, ρ<0.001). We also found that financial resources were statistically significant and have a positive relation with all growth strategies.

Table 6. Resources and capabilities and organic growth strategy of the SMEs

(Non-standardized *β* coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm age	-0.009 (0.008)	-0.004 (0.006)	-0.004 (0.005)
Firm size	0.001 (0.002)	0.001 (0.001)	0.001 (0.001)
Family business	-0.084 (0.097)	-0.057 (0.071)	-0.043 (0.068)
Resources and capabilities			
Technological		0.661 (0.039)***	0.614 (0.045)***
Financial		0.130 (0.035)***	0.095 (0.035)**
Networking capabilities		-0.097 (0.040)	-0.101(0.038)
Institutional effects			
IPP			0.139 (0.046)**
Interaction			
Technological*IPP			0.065 (0.043)
R square	0.004	0.468	0.486
F	0.57	65.066***	52.048***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Table 7. Resources and capabilities and acquisitive growth strategy of the SMEs

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm age	0.011 (0.008)	0.013 (0.008)	-0.004 (0.006)
Firm size	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001) *
Family business	0.011 (0.097)	-0.001 (0.088)	0.003 (0.072)
Resources and capabilities			
Technological		0.011 (0.047)	0.076 (0.035) *
Financial		0.384 (0.046)***	0.167 (0.040)***
Networking capabilities		0.037 (0.047)	-0.030 (0.035)
Institutional effect			
Credit access			0.569 (0.047) ***
Interaction			
Financial*Credit access			0.113 (0.041) **
R square	0.007	0.156	0.452
F	1.10	13.617***	46.56***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborate

Table 8. Resources and capabilities and hybrid growth strategy of the SMEs

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm age	0.005 (0.008)	-0.002 (0.006)	-0.006 (0.006)
Firm size	0.002 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Family business	0.010 (0.095)	-0.011 (0.074)	-0.002 (0.074)
Resources and capabilities			
Technological		0.074 (0.041)*	0.013 (0.040)
Financial		0.113 (0.038)**	0.100 (0.038)*
Networking capabilities		0.622 (0.038) ***	0.533 (0.041)**
Institutional effect			
Interfirm trust			0.277 (0.049)**
Interaction			
Networking capabilities*Interfirm trust			0.102 (0.037) *
R square	0.003	0.399	0.448
F	0.55	49.042***	44.692***

*p < 0.10; **p<0.05; ***p<0.001

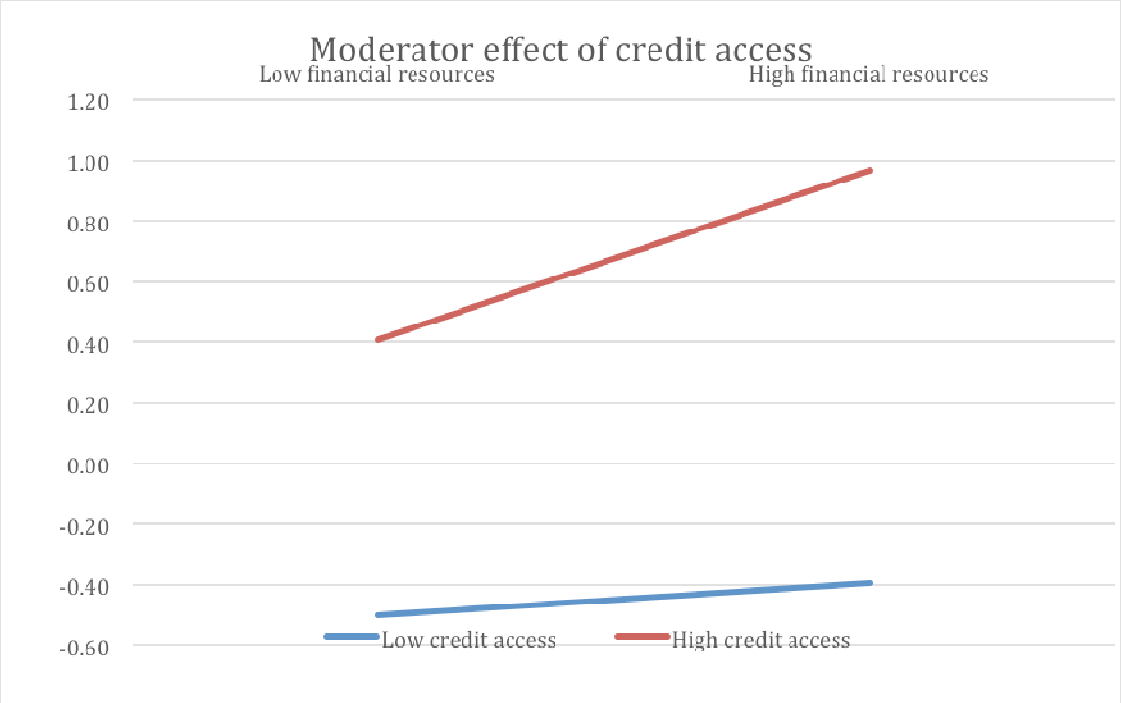
Source: Self-elaborated

Regarding the moderating effect of institutional factors, we did an analysis of the interactions between the SMEs' resources and capabilities and the institutional factors[2]. The moderating effect of the IPP was not statistically significant, so hypothesis 4 is not supported. About the

[2] The moderating effect was also proven through groups' analysis, dividing the sample into two. The first group included those firms with a high perception of the institutions' environmental effects, and the second one, the ones with a low perception. We further developed the OLS for both groups and compared their results. To determine if the moderating effect of the institutional variables is statistically significant, we developed a t test to compare the same coefficient from a model in two groups of the moderating variable.

moderating effect of credit access, the results showed a statistically relevant moderating effect of the credit access over the relation between financial resources and capabilities and acquisitive growth (β=0.038, ρ<0.05), therefore hypothesis 5 is supported. With regards to interfirm trust's moderating effect, the results showed a statistically significant effect in the interfirm trust's moderation over the relation between the networking capabilities and the hybrid growth strategy (β=0.090, ρ<0.05), therefore hypothesis 6 is also supported. For a better understanding of these results, we present the corresponding interaction plots in Figure 3 and 4.

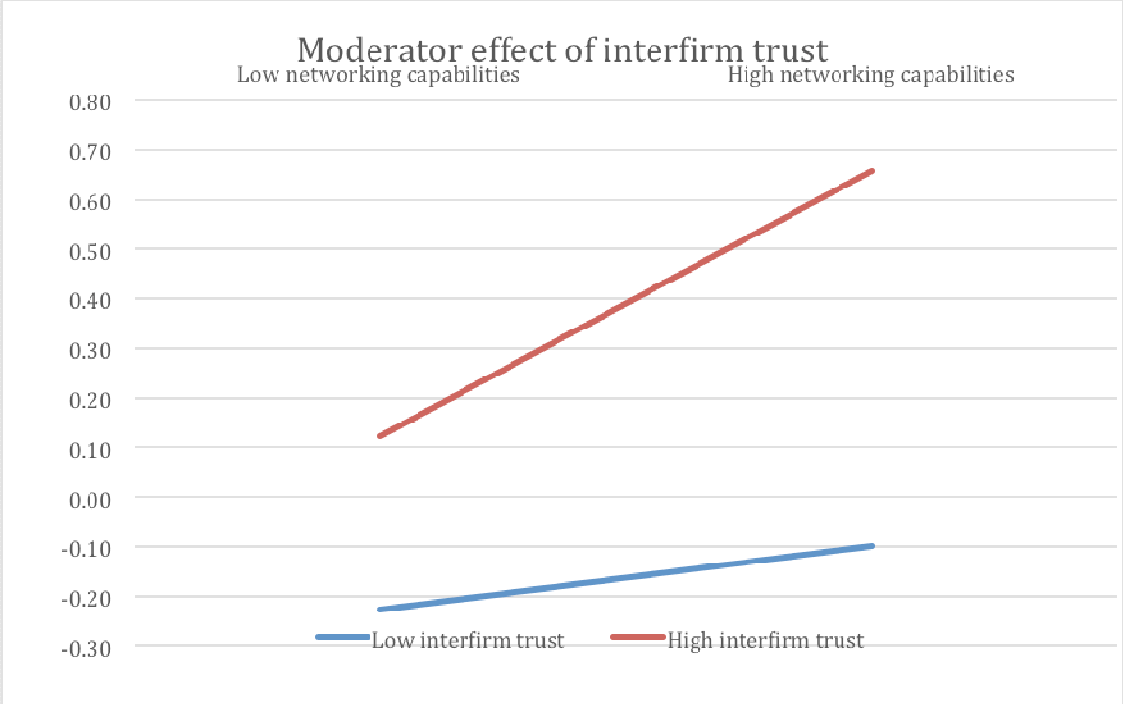
Figure 3. Moderating effect of credit access on the relation between financial resources and acquisitive growth



Source: Self-elaborated

Figure 3 shows that higher credit access increases the intensity of the relation between financial resources and acquisitive growth. In other words, there is a positive moderating effect of credit access over the relationship between financial resources and acquisitive growth.

Figure 4. Moderating effect of interfirm trust in the relation between networking capabilities and hybrid growth



Source: Self-elaborated

Figure 4 shows that higher interfirm trust increases the intensity of the relation between networking capabilities and hybrid growth. In other words, there is a positive moderating effect of interfirm trust in the relationship between networking capabilities and hybrid growth.

Additionally, robustness tests were done, including analysis for the subsamples, particularly validating them by size and age with a median split. The results were consistent for all cases and are shown in appendix IV.

6. Discussion and Conclusions

The present study contributes to the literature on firm growth from its less studied dimension, by analyzing the antecedents of the strategic growth decisions. During the data recollection process of both the internal and the external institutional factors, we found out that recollecting

information in emerging markets, such as the Mexican one, is more complex than in developed economies (Cuervo-Cazurra et al., 2014). In the sample we found three growth strategies, organic, acquisitive, and hybrid, and, even though the selection of growth strategies is a dynamic process that can change through time, we found that there exists a differential impact of resources on growth strategies, which has been a topic proposed by researchers in the past (Gilbert et al., 2006; McKelvie & Wiklund, 2010). The results presented here are noteworthy in providing empirical evidence that demonstrated the relations between the R&C and the growth strategies chosen by the SMEs. Similarly to other authors, we discovered that the possession of intangible assets, such as the knowledge and talent of employees, is fundamental for the firms' growth and to improve its competitive position (Cuervo-Cazurra et al., 2014).

We found that those firms that allocate resources to invest in research or development of new products or develop their own patents and intangible assets with their own processes, while having the capacity to use the technical resources (Jin & von Zedtwitz, 2008), to find new products or improve the existing ones (Haeussler, Patzelt, & Zahra, 2012), tend to prefer the organic growth strategy, as seen in previously studied firms from different countries (Zahra et al., 2006; Chen et al., 2009). We also found a weaker, but statistically significant, relation between the firms with solid financial resources and organic growth strategy. This can be explained due to the ease by which financial resources are transformed into other types of assets, such as intangible assets.

On the other hand, we recognize that financial resources are vital for firm growth (Barney, 1991; Grant, 1991). We found that those firms with solid retained earnings and that have access to alternative sources of funding prefer the acquisitive growth strategy. We also found statistically significant evidence that shows that firms growing by acquisitive growth are larger

than others, because the firms with more seniority have consolidated processes that allow them to build retained earnings, which is consistent with previous studies (Delmar et al., 2003; Wiklund et al., 2003). We found that 15 % of the firms in the sample grow following the acquisitive growth strategy, which is consistent with previous studies (Delmar et al., 2003). Somewhere in between are those firms that establish business relations through their existing relations with friends, family, schoolmates and social organizations; they prefer the hybrid growth strategy over the other ones. The hybrid growth strategy includes partnership relations with others firms, either licensing or buying or selling technology from other firms. The hybrid growth strategy is based on consensual, professional relationships that are operationalized by contracts (McKelvie & Wiklund, 2010). The firm must have strong networking capabilities that allow it to make agreements with other firms (Kogut & Zander, 1992). We found that those firms who prefer the hybrid growth form as strategy reported having strong networking capabilities, which is consistent with previous studies carried out in different cultural contexts (Zou et al., 2010). We also found a weaker, but statistically significant, relation between the firms with solid technological resources and hybrid growth forms, which can be explained as we mentioned before, hybrid growth takes parts from the other growth strategies. Particularly, the ETICS is a knowledge intensive sector, in which the investment on technological resources increases the level of attractiveness of the firms looking to associate. Selecting business partners is a strategical process that protects the firms' intangible assets. Both strong and weak ties play an important role in the hybrid growth strategy (Arora et al., 2001).

Our study contributes evidence regarding the institutional factors' effect on the previously mentioned relations. As we argued, institutions have an influence on economic behavior and performance (Gnyawali & Fogel, 1994; Veciana & Urbano, 2008; Bruton et al., 2010). The

evolution of institutions in Latin America has been different than that in Europe and the United States (North, 1991). Institutional conditions partially explain why firms with similar R&C have different business performance in developed economies and in emerging economies (De Clercq et al., 2010). Most of the previous empirical works agree that institutional factors influence SME growth (Keogh & Evans, 1999; Becchetti & Trovato, 2002; Delmar et al., 2003; Fuller-Love, 2006; Capelleras & Hoxha, 2010); however, some authors have found that, in emerging economies, institutional barriers are not a major influence on the firm's growth (Capelleras & Hoxha, 2010).

Institutional forces play important roles in the development of both technological capability and absorptive capacity (Balbinot & Bignetti, 2007). Previous studies have demonstrated that one of the barriers to invest in R&D for existing firms was a lack of trust in rights and IPP (Franco & Haase, 2010). In our study we found that there is a direct and statistically significant effect between the IPP and organic growth. Despite this and contrary to our expectations, we have not found statistically significant evidence supporting that IPP moderates positively the relation between the TR&C and organic growth. This is probably because the intellectual property law is not robust in Mexico and the SMEs' directors' trust is just in theory, but does not influence the business decisions they make.

According to the moderating effect of access to credit, in Mexico access to credit is particularly restricted, due to the lack of guarantees to obtain financial resources; only 20% of the SMEs meet the requirements requested by banks to obtain credit, which causes the financial costs to be high and unattractive, and thus inhibit growth (Aidis, 2005; De Clercq et al., 2010; Franco & Haase, 2010). We found that credit access moderates positively the relation between financial resources and the acquisitive growth strategy.

One of the greatest external barriers for hybrid growth is the skepticism towards outside help (Ghobadian & Gallear, 1996). We found a positive and statistically significant effect between interfirm trust and hybrid growth, as well as empirical evidence that supports that interfirm trust moderates positively the relation between networking capabilities and the hybrid growth strategy.

In conclusion, we found the existence of a relation between the allocation of certain R&C and the growth strategy chosen by an SME. We discovered a direct relation between the TR&C and the organic growth strategy. Similarly, there is a relation between the financial R&C and the acquisitive growth strategy and a relation between the networking capabilities and the hybrid growth strategy. Additionally, we extended previous studies by analyzing the moderating effect of institutional factors. We found that credit access moderates positively the relation between financial resources and capabilities and the acquisitive growth strategy. We also found statistically significant evidence that demonstrates that interfirm trust moderates positively the relation between networking capabilities and the hybrid growth. Contrary to our expectations, we did not find statistically significant evidence to prove that the IPP moderates the relation between TR&C and the organic growth. Overall, our findings improve our understanding of the internal and institutional antecedents that influence the strategic decision making of the SMEs.

Different R&C are related to different growth strategies, moderated by certain institutional factors. Firms ignoring, or unaware, of this fact will be at a disadvantage when trying to reach their objectives. CEOs must take this into consideration when considering where to endow their resources: in TR&C when following organic growth; in financial R&C when following acquisitive growth; in networking capabilities when following hybrid growth. With organic growth, SMEs need to invest in R&D and to develop new products, patents, and processes. With

acquisitive growth, they need to have access to different financial sources, including low cost capital internally generated or from bank loans and IPO. With hybrid growth, making use of previous relations and having strong networking capabilities are necessary elements to create alliances.

CHAPTER 3

ESSAY 2- BUILD FOR FAME, BUY FOR FORTUNE AND BORROW FOR FRIENDS: GROWTH STRATEGIES AND SMES' PERFORMANCE

ABSTRACT

While the determinants of firm performance have been the focus of lots of research, there is a lack of studies examining the relation between performance and growth strategies. Answering to the call made by some scholars on this matter, we investigated the causal relations among growth strategies and the performances of the SMEs in ETICS in Mexico. The most valuable contribution of this work is the analysis of the institutional factors' moderating effect, particularly of the IPP and interfirm trust, over said relations.

Findings indicate that performance, measured with objectives and the aspiration levels pursued among SMEs, is related to the growth strategies they selected. We found that certain firms that are conservative and risk averse preferably decide to grow organically, building a firm step-by-step and pursuing long term-survival, and thus achieve fame. On the other side, we found that some other firms that are aggressive and willing to take risks decide to grow by buying companies, aiming to increase their fortune by improving financial profits in the short term. Finally, we included a third group of firms whose performance objectives and aspirations lay between those of the previous groups. This group aims to improve their competitive position by sharing both risks and profit. Because of this, we consider them as risk neutral; they choose to grow by borrowing-giving R&C, in other words, these firms make business friends that allow them to improve their competitive position.

We also found that relations between growth strategies and growth objectives are stronger in those firms that trust the most on both IPP (formal mechanisms) and on high-trust relations in

business transactions (informal mechanisms); this has managerial implications that are also discussed in the paper.

1. Introduction

Growth and firm performance have been the focus of lots of research, though most of the performance literature has concentrated on forecasting the result of different variables associated to the firms' performance. Nevertheless, there is a lack of studies examining the performance effects of growth strategies (Davidsson & Delmar, 1997; Delmar et al., 2003; Davidsson et al., 2006). In accordance with recent literature revisions, most of the empiric works about growth published in management and entrepreneurship journals during the last decade have explained differences of growths rates, leaving aside the way in which growth occurs (Shepherd & Wiklund, 2009; McKelvie & Wiklund, 2010).

In accordance to the recent call made by some scholars (Gilbert et al., 2006; McKelvie & Wiklund, 2010), we decided to study the way in which growth occurs and its relation to the SMEs' performance. We analyze three paths of growth namely, organic also called internal, acquisitive or external (Penrose, 1959), and hybrid or mixed (Williamson, 1991). The importance of carrying out this classification is that different growth strategies have different implications on the firms' performance and, consequently, different managerial challenges (Penrose, 1959; Lockett et al., 2011). Firm performance has been extensively studied and analyzed from different dimensions (Davidsson & Delmar, 1997; Becchetti & Trovato, 2002; Gilman & Edwards, 2008). It is usual in large firms with public information, to measure performance by using objective data. Nevertheless, due to the difficulty in obtaining objective data from the SMEs, we decided to use subjective measures, considering the CEOs objectives and aspiration levels (Morris et al., 2007; Zou et al., 2010) and risk level they are willing to undergo (March & Shapira, 1987).

Three measures of performance were employed and they are linked to a certain level of risk considering an *ex ante* context; in other words, considering risk as the quantifiable level of uncertainty regarding the future result of a decision. In this case, the decision is choosing a growth strategy (Grifell-Tatjé & Marqués-Gou, 2005). The first category consists of those low risk-conservative firms, seeking to survive in the long term (Cooper et al., 1994), what we call gaining fame. The second is made up with high risk firms aiming to aggressively obtain financial profit in short term (Dvir & Shenhar, 1992; Haber & Reichel, 2005). According to the conventional economic theory, profit should be the key performance indicator (Jarvis et al., 2000), as profit allows them to increase their wealth, what we call gain fortune. The third is composed by firms that we called neutral risk, which are willing to share resources and profit with partner firms in order to strengthen their competitive position (Morris et al., 2007), so they are seeking business friends.

In addition to the role played by growth strategies, previous studies have demonstrated that the SMEs' performance depends on the institutional conditions they face. Some empirical studies have proved that a favorable institutional environment improves a firm's performance (Audretsch et al., 2014; Williams & Vorley, 2015), while other studies have found that an adverse institutional environment should not necessarily have a negative impact on firm growth (Bamiatzi & Kirchmaier, 2014). Particularly in KIS, knowledge is the asset that creates a substantial part of the added value of companies through patents, industrial secrets, and other intangible assets (Bennett, 1998; Kumar et al., 1999; Beck et al., 2005; Brenner & Schimke, 2015). In that sense, trust in the IPP system and interfirm trust play an important role in the SMEs' performance. Therefore we are including in our study the analysis of the moderating

effect of IPP and interfirm trust (Clarysse et al., 2011; Audretsch et al., 2014; Williams & Vorley, 2015).

Prior empirical works on Eastern economies (Zou et al., 2010) show that firms' performance varies as a function of the growth strategy selected. However, because the evolution of institutions in Latin American economies has been different from that of the Eastern economies (North, 1990), institutional and environmental factors have a different effect on businesses in Latin American economies (Capelleras et al., 2010). Therefore, it becomes interesting to prove such relations in a different cultural context. We used a self-developed database with 450 observations, result of surveying the directors of SMEs in the ETICS, most of them located over the 3 largest cities in Mexico. It is expected that this study will help better understand how growth strategies influence in firms' performance, which is relevant due to its theoretical and managerial implications (McKelvie & Wiklund, 2010).

2. Theory and Literature Review

2.1 Growth strategies

Most of the growth literature for the past fifty years has concentrated on understanding why some firms grow more than others, following the approach of *The Theory of the Growth of the Firm* (Penrose, 1959) that aims to identify resources that contribute to the growth of firms; growth has been conceptualized and measured in different dimensions. The growth model presented by Penrose is based on leveraging the resources of the firm as well as growth opportunities, when managers are not able to either identify or exploit growth opportunities, then growth slows (Hamilton, 2012). Under this approach, over time various relationships between growth and resources have been analyzed, like the existing relationship between entrepreneur

characteristics and growth (Smallbone et al., 1995; Baum et al., 2001; Anderson, 2003; LeBrasseur et al., 2003), the resource configuration and endowment to achieve growth (Fuller-Love, 2006; Wright & Stigliani, 2012), and the role of innovation as one of the main sources of firm growth (O'Cass & Sok, 2013; Audretsch et al., 2014). There is a considerable amount of literature reviews carried out in recent years related to growth, for example those carried out by Delmar (1997), Weinzimmer (1998) and Achtenhagen et al. (2010). Most of the empirical studies are focused on examining the determinants of venture growth (Davidsson et al., 2006; Gilbert et al., 2006; Macpherson & Holt, 2007) by the analysis of a large number of dependent variables that explain the variations of growth *as a quantitative increase*; most of the studies attempt to seek explanations as *how much* firms grow (Achtenhagen et al., 2010).

Despite the great number of studies already made, the results of the empirical works are not convergent and the researchers have been unable to identify variables that have a consistent effect on growth across studies. The analysis units used, variations in time, and differences in the growth forms, among other things, can explain this. The results of empirical studies show models able to explain only a limited portion of the differences in growth among firms (McKelvie & Wiklund, 2010). The most recent research on firm growth has increased our understanding of different growth patterns (Davidsson et al., 2006; Achtenhagen et al., 2010; McKelvie & Wiklund, 2010); in essence the focus of this research stream is understanding *how* growth happens, which we will call growth strategies. Growth strategies can be explained by the RBV presented by Barney (1991), focusing on the firm's internal strengths in order to create a sustainable competitive advantage and using strategies to improve its efficiency and effectiveness. In order to provide a competitive advantage, a firm's resources must have four characteristics; being valuable, rare, irreplaceable, and not imitable. The firm's capabilities are

defined as the way the resources are used by the firm to improve its performance (Grant, 1991). "*Strategic management has traditionally focused on business concepts that affect firm performance"* (Hoskisson et al., 1999, p. 418). According to Bhide (1996), the questions every entrepreneur must answer are (1) what are my goals? (2) Do I have the right strategy? (3) Can I execute the strategy?

In this regard, growth strategies are the way in which the firms' managers or CEOs decide to assign the firms' R&C in order to achieve the objectives that have been established. We identified three growth strategies; organic, acquisitive, and hybrid. Organic refers to internal growth through research and product development and enhancement (McCann, 1991); it is based on the knowledge absorbed by the firm through technological resources, such as knowledge and patents, and capabilities, such as the ability to integrate and built long-term business with these technological resources (Bell & Pavitt, 1995). Firms that follow the organic growth strategy usually spend resources on research to develop new products and enhancing their product portfolio (Zahra, 1991). Acquisitive refers to an integration of firms into one, and in so they move jobs across firms (Pasanen, 2007). Therefore it seems normal that high-growth firms in mature industries grow through acquisitions (Penrose, 1959; Levie, 1997; Henrekson & Johansson, 2010; Lockett et al., 2011), since the firms that grow by acquisitions usually have enough financial resources to do so. Hybrid refers to actions in between the other two strategies, like franchising, licensing, and joint ventures/strategic alliances (Williamson, 1991; McKelvie & Wiklund, 2010). When firms become partners, they can access external resources. This allows them to develop new products and share the risks of those developments, and to jump-start its own internal process (McCann, 1991).

The three growth strategies place different types of demands on managers that follow them, and these paths for growth may also have a differential impact on firm performance (Penrose, 1959; Delmar et al., 2003; Lockett et al., 2011). By analyzing in detail the growth strategy used in a firm, it could be possible to better understand the previously unexplained fluctuation found analyzing only the growth rates over time (McKelvie & Wiklund, 2010).

2.2 SMEs performance

Performance has been subject of great interest in the past two decades, both to be studied by academics and to be understood by practitioners: "*Many firms claim to be running for performance and seek to measure their performance, improve performance, and compensate their people for performance"* (Meyer, 2002). Firm performance can be considered as the firm's ability to create acceptable outcomes (Pfeffer & Salancik, 1978). Even though there are different systems to measure performance, there is widespread dissatisfaction with most of them, some of them even contradicting each other (Meyer, 2002). In general, previous research suggests a close connection between the growth and the performance of a small firm; it is common to find in existing literature the concept of growth as a synonymous of success or performance (Zahra, 1991; Baum et al., 2001; Wiklund & Shepherd, 2003; Davidsson et al., 2006), but they are two different concepts. Generally, growth can affect several aspects of performance; growth is an important precondition for the achievement of other firm objectives (Pasanen, 2007). Some researchers have placed emphasis on firm growth as the key indicator of a business's success (Clarysse et al., 2011).

It is important to recognize the multidimensional nature of the performance construct (Kramer & Venkataraman, 1994; Delmar et al., 2003; Phelps et al., 2007). Strategically, and in its simpler form, firm performance is related to the failure or success of a firm (Dess & Robinson, 1984;

Ostgaard & Birley, 1995), nevertheless, there is not a universal definition for success in the business studies (Neely, 2004). An example is Vesper's (1990, p. 31), where he establishes that success in performance "*can have different forms, e. g. survival, profit, return on investment, sales growth, number of employed, happiness, reputation, and so on*". A review of prior academic empirical works shows multiple measures and methods to measure performance; previous authors agree that it is appropriate to use different performance measures based on the research questions analyzed (Chandler & Hanks, 1993), "*Each user can interpret the performance data as he or she pleases according to different time frames, objectives, intent, risk-avoidance attitudes, or perspectives*" (Neely, 2004, p. 72). It is common in the analysis of large firms with publicly available financial information to measure performance with objective data, such as increase in sales, market share, or financial profitability (Stewart et al., 1998; Wiklund & Shepherd, 2003; Gilbert et al., 2006; Desai, 2008). Nevertheless, measuring the SMEs performance presents different problems, because they are not public and they hardly give quantitative information; even if they did, it is not possible to check the accuracy of it (Covin & Slevin, 1989). Another factor that hinders the measurement of performance in SMEs is the managers' resistance to share strategic information from their firms (Chandler & Hanks, 1993). To deal with those problems, some scholars have found correlations between subjective and objective measures of performance (Dess & Robinson, 1984). We admit that subjective measures are not better than objective ones, but, given the restrictions of objective measures, the usage of subjective performance measures may be appropriate. We are aware of the multiple relations between different strategies and performance, so for this study we identified as being clearer the ones between the three growth strategies previously mentioned and the performance. We focused on measuring performance based on the individual's intention to perform a given behavior, since

previous studies have already proven that intentions predict real behavior with a high degree of accuracy: "*As a general rule, the stronger the intention to engage in a behavior, the more likely should be its performance*" (Ajzen, 1991, p. 181). Performance's measurement is valuable if it is useful in the decision-making process (Lebas & Euske, 2002); performance's measurement reflects the transmission of the firm's objectives as part of the strategy implementation process (Otley, 2002). "*The main point is that any performance measure must take into account the goals and objectives of the decision makers*" (Clark, 2002, p. 35). Therefore, we consider the firm's objectives and aspiration levels into measurements of firm performance.

Previous studies have found connections between the different growth strategies and different effects in performance, as shown in the work by Buzzell & Gale (1987). Due to the broadness and diversity in approaches, variables, and mechanisms to measure performance, we decided to use three categories of subjective performance measures, just like other previous studies (Cooper et al., 1994; Meyer, 2002; Walter et al., 2006; Gruber et al., 2010; Zou et al., 2010). The first category is related to the performance attained from organic growth, and is mainly related to young, recently created firms whose performance goal is survival (Dess & Robinson, 1984). They are conservative firms focused on the allocation of internal resources and that have clear that the most valuable assets typically take time to develop, therefore they sacrifice short term financial utility for the long term-survival expectative (Clark, 2002). The second category is related to the performance attained from acquisitive growth. Previous studies, like Gilbert et al.'s (2006), established that there is a clear difference in the performance of firms that grow organically or through acquisitions. The former have a gradual performance looking for long term-survival, while with the latter the effect in performance is in short term: "*buying an existing firm substantially increases the year-to-year sales in the months pursuant to an acquisition*"

(Gilbert et al., 2006, p. 939), so we know that these kind of firms are generally older and have consolidated processes (Levie, 1997). The third category is related to the firms following the hybrid growth strategy, which seek to improve their competitive position, since it is related to the SMEs that try to associate with another to jump-start its own internal process (McCann, 1991). Having strategic partners allows firms to build their own internal structures, by collaborating with people with diverse backgrounds and perspectives (Leung et al., 2006).

Each one of the three categories motivates decision makers to accept the risks inherent in changing their organization (Bromiley, 1991; Fiegenbaum & Thomas, 1988) and is related to the level of risk taken by firms (March & Shapira, 1987). Nevertheless, there are multiple definitions for risk, some of them are presented in the work by Grifell-Tatjé & Marqués-Gou (2005, p. 89): *"Mao (1970) found that the managers considered risk as the possibility of not attaining the planned results and that, even though risk was understood, first of all, with the deviations below the objective, the deviations above it were relevant in the analysis of investments and should be considered as negative risk, which lightened the positive risk of insufficient results. On the same line, March & Shapira (1987) concluded that the managers associated risk with negative results in regards of the objectives, even though there is a role for positive results. Aaker & Jacobson (1987) considered risk as the likelihood of losing or not achieving a given target cost effectiveness. Fishburn (1984) remarks that the difference between risk and uncertainty is that risk implies establishing objectives and considering preferences regarding the results according to said objectives"*. For this study we decided to operationalize the measure of performance as a qualitative, dependent variable associated to the risk level of each one of three different categories. The first includes the firms whose performance is connected to looking for survival and are conservative and have yet to develop their routines, reason why they are usually reluctant

to taking risks (Greve, 1998). It involves the lowest level of uncertainties and they are usually small, conservative businesses, whose growth responds to market demands (McCann, 1991). We named it low risk-survival.

The opposite is the second category, which we call high risk-profit. It consists of those firms looking at objectives to increase their financial profit in the short term: "*If performance is well above the survival point, the focus of attention results in a predilection for relatively high variance alternatives, thus risk prone behavior*" (March & Shapira, 1987, p. 1413). They are more willing to take a greater risk and they usually are larger firms with consolidated structures and processes (McCann, 1991).

The third category is in the middle point and we call it neutral risk-competitive position. It includes those firms whose objectives are related to improving their competitive position in the market by sharing risks and profit with other firms, even with competitors (McCann, 1991; Delmar et al., 2003; Morris et al., 2007), knowing that strategic partners contribute to the reduction of innovation uncertainty (Ramachandran & Ramnarayan, 1993).

2.3 Institutional factors

Several recent empirical studies of growth and firm performance mention the importance of the institutional environment's effects over both the firms' growth and performance (Capelleras & Rabetino, 2008; Shepherd & Wiklund, 2009; Westhead & Wright, 2012; Wright & Stigliani, 2012). The effect of institutional factors over firm growth has been analyzed before. An example is the work by Dickson et al., (2006), in which they proved that the impact of uncertainty is higher on large firms than it is in small ones. Bamiatzi & Kirchmaier, (2012) proved than an adverse environment does not necessarily have a negative impact on firms' growth. Each region is different, and so institutions change accordingly, evolving along with the geographic and

cultural context, previous research have proven that in emerging economies in Eastern Europe, in the absence of a strong institutional framework, informal barriers have emerged and tend to hinder firm growth (Capelleras & Hoxha, 2010). Latin American institutions, are highly centrally controlled (North, 1991), previous empirical studies on firms in Argentina, Brazil, Chile, and Peru found out that unfavorable environmental conditions are barriers for the firms' growth and that entrepreneurs use their human and social capital resources to shape the speed by which their firm is created (Capelleras et al., 2010).

In KIS, the IPP regime in business is a crucial aspect to create revenue and to defend the firm's competitive position (Candelin-Palmqvist et al., 2012). Institutional property can be protected by formal and informal methods (Kitching & Blackburn, 1999). Formal IPP practices involve high costs of acquiring formal intellectual property rights in terms of money and time, reason why the CEOs of the SMEs are highly selective regarding the acquisition of copy rights (Kitching & Blackburn, 1999) and seek informal alternatives, like establishing high-trust relations in business transactions (Dickson, 1996). Nonetheless, a problem that SMEs face is the skepticism of the owners and managers towards outside help (Ghobadian & Gallear, 1996). Interfirm trust refers to the confidence that an external actor, such as customers, suppliers, competitors, or any other actor in the ecosystem will not exploit the vulnerabilities of the other (Gulati, 1998), avoiding the potential for opportunistic behavior. Dickson et al. (2006) argued that the potential for opportunistic behavior is related to both the firm's resources and its external environment.

Some authors have shown that high levels of interfirm trust enable actors to work together, even in the absence of formal controls, like contracts (Gulati, 1998). Other authors have found that when actors rely on trust, it is usually institutional trust rather than interpersonal trust (Rus &

Iglic, 2005). Either by formal or informal protection mechanisms, security and interfirm trust enable growth and influence the performance of the SMEs (Kitching & Blackburn, 1999)

We argue the perception that the IPP and interfirm trust between business partners, clients, and suppliers moderate the existing relations between SME' growth strategies and their performance.

3. Hypotheses Development

3.1 Growth strategies and performance objectives

As mentioned before, different growth strategies will have as a result different effects on the strategic performance of firms (Delmar et al., 2003; Davidsson et al., 2006; Achtenhagen et al., 2010; McKelvie & Wiklund, 2010). We acknowledge that growth strategies are not mutually exclusive; however, when choosing one strategy, the other ones are limited. For example, if a firm grows through acquisitions, the ability to expand organically is reduced (Penrose, 1959), as well as the willingness to invest in another kind of resource. The growth strategies chosen by the companies are dynamic and vary over time (Brenner & Schimke, 2015); the growth strategy chosen by the company responds both to the availability and allocation of resources and the effects of institutional factors, such as economic crises or declining markets (Bamiatzi & Kirchmaier, 2012).

Firms that choose the organic growth strategy assign resources to their processes and their technological products and have the capability of making them productive; they invest a significant amount of resources, which reduces short-term profit, but guarantees long-term survival (Lockett et al., 2011). Firms that invest in developing a stronger technology base or in human or networking resources, such as investing in training or R&D, obtain non-profitable results (Clarysse et al., 2011). Organic growth focuses on the development of new products as a

response to the market's demands, enabling them to stay on the market in the long run. Businesses that grow this way reduce their exposure to risk and seek survival (McCann, 1991). Organic growth acts as a constraint on profit performance; firms that grow in an organic way are relatively unlikely to be able to attain superior profitability (Davidsson et al., 2009). Organic growth is a conservative growth strategy and involves the lowest level of uncertainties (Zou et al., 2010). "*New ventures adopting this strategy can concentrate on their internal operations without worrying too much about dealing with external partnerships or integrating a totally different business entity" (Zou et al., 2010).* These firms usually have better control of their operations and they respond to changes in the market's demands (McCann, 1991). This way, we can conclude that performance that leads to organic growth pursues low risk-survival objectives and may very well differ from those that lead to acquisitive and hybrid growth.

H7 *An organic growth strategy is more likely to reach the firm's objectives of low risk-survival than others with higher risk objectives.*

On the other hand, firms growing by acquisitions are usually mature firms (Levie, 1997). Previous studies show that success rates in value creation by acquisitions are usually low (Christensen et al., 2011). Nonetheless, some authors have found that, when the acquisition is made in similar businesses with similar managerial styles, the acquisition success is greater in terms of performance (Bauer & Matzler, 2014). Firms growing through acquisitions are seeking business opportunities, knowledge expansion, and discovery of unexpected sources of synergy, resulting in high financial performance (Graebner, 2004). Sometimes firms may choose acquisitions because they lack the ability to expand organically (McKelvie & Wiklund, 2010), some other times they do because of their willingness to acquire high profit businesses (Pasanen,

2007).

Typically, firms growing by acquisitive growth are larger and older than the others (Wiklund et al., 2003), with consolidated processes and access to their financial resources that allow them to develop forward or integrate backward. "*Forward or backward vertical integration means that the acquired firm is located at a different level of the value- addition chain, i.e. the acquired firm is a customer or supplier of the firm. In contrast, horizontal integration refers to a firm which is at the same level of value-addition, i.e. it is a competitor. Lateral integrations refer to unrelated businesses which represent a diversification strategy*" (Pasanen, 2003, p. 61). They are aggressive firms with consolidated processes and structures, willing to take risks. The financial resources help firm growth by allowing them to purchase an existing business (Gilbert et al., 2006). The acquisitive growth strategy is the riskiest strategy (Zou et al., 2010).

H8 *Acquisitive growth strategy is more likely to obtain high risk-profit than others with lower risk objectives.*

Hybrid growth modes include partnership relations with external actors to the firm so they join efforts, assets, and profits to accomplish mutual growth (Kogut & Zander, 1992). Forming an association allows firms to participate in markets that would otherwise be out of their reach with their resources alone (Kale & Singh, 2009). Three main forms of hybrid growth have been identified (McKelvie & Wiklund, 2010). Franchising is a legal agreement between the firm and an external partner to share the firm's intellectual property in exchange for monetary compensation; the firm grows without spending its financial resources. Licensing consists in selling intellectual property rights in exchange for a royalty payment based on usage. Strategic alliances consist in collaborations with another firm or firms to achieve synergies that the firm

would not otherwise be able to obtain by itself. In associations not only profits are shared, but risks as well. With alliances, the flow of resources between organizations becomes potentially easier (Dickson et al., 2006). The relation between networking capabilities and success has been a focus of study in the small business literature. One finding was how higher levels of networking activities are connected to a greater performance (Aldrich et al., 1987; Dowling, 2003). Notwithstanding, other authors have found that technological alliances may not always positively affect innovative performance (Park & Kang, 2013). Some firms license technology from another firm to jump-start its own internal innovation process (McCann, 1991). We argue that firms that choose hybrid growth are seeking to obtain from their business partners the R&C they lack and together reach business opportunities they would not do individually (McKelvie & Wiklund, 2010), sharing both risks and performance, and learning from alliances. In other words, when using the hybrid forms of growth, the firms are trying to improve their competitive position in the market. Particularly in the high technology sectors in Mexico, SMEs have affinity with sharing and learning from similar firms and borrowing to build their own competitiveness.

H9 *A hybrid growth strategy is more likely to reach a firm's objectives of a risk-neutral competitive position than high, risk profit, or low-risk, survival objectives.*

3.2 Institutional factors as moderators

As we mentioned before, IPP regime, related to the commercialization of intangible assets, like protection against patents' and industrial secrets' theft, affects the development of SMEs (Herrera & Lora, 2005). Firms that grow organically compete with their own technology (McCann, 1991). The efficiency and the integrity of the institutional environment affect business performance (La Porta et al., 1999). In KIS, the institutional forces play an important role in firm

performance (Balbinot & Bignetti, 2006). The management of knowledge is a key point to firms in a technology-driven industry; it is vital to generate profit, sustain a competitive advantage, and, ultimately, to survive (Candelin-Palmqvist et al., 2012). Firms with a better perception of security and trust in law enforcement related to intellectual property will have a better chance of survival (Herrera & Lora, 2005). Then, we can hypothesize:

H10 *The IPP moderates the positive relationship between organic growth and the firm's low-risk, survival objectives, so that the stronger the IPP regime, the stronger this relationship.*

Mergers and acquisitions are processes, where there implicitly exists a risk that one partner takes advantage of another because of an asymmetry of information between firms (Dickson et al., 2006). In technological sectors, firms' acquisitions include intangible assets that are difficult to value and also are difficult to protect (Hennart & Reddy, 1997); therefore a strong IPP regime reduces the transactions cost of buying and selling and, consequently, improves profit (Kogut & Singh, 1988; Singh & Kogut, 1989). The countries that have a better institutional development have lower transaction costs due to higher trust in the legal, institutional environment (Kumar et al., 1999; Beck et al., 2005). In societies where the perceptions of law enforcement regarding IPP is not clear, it is necessary to write and execute complex contracts to control the potential for opportunism, which increases transaction costs, and this affects firm performance (Teece, 1986). SMEs with a better perception of law enforcement will have better expectations to improve profits by acquisitive strategy. Then, we can hypothesize,

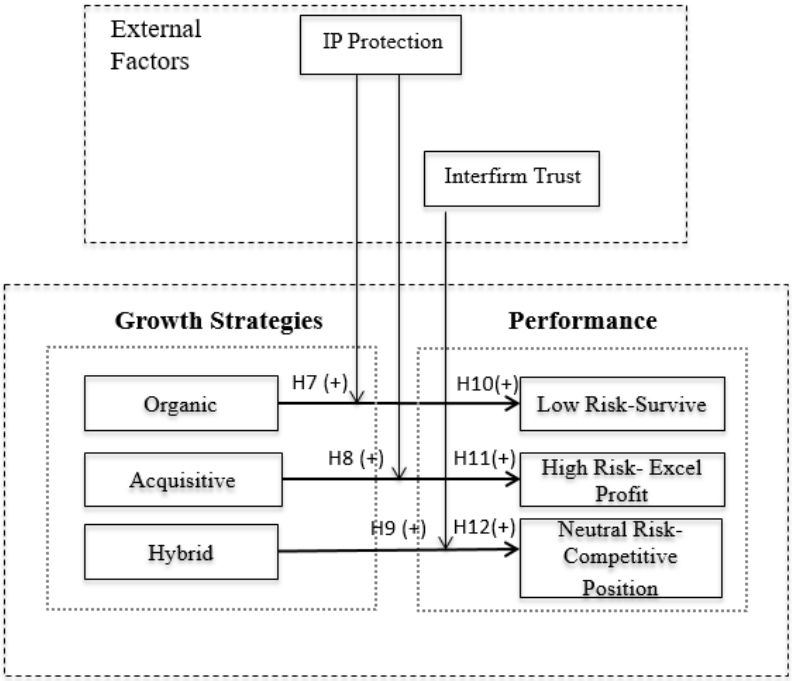
H11 *The IPP moderates the positive relationship between acquisitive growth and the firm's high-risk, profit objectives so that the stronger the IPP regime, the stronger this relationship.*

When the firms lack the necessary resources to improve their position in the market by themselves, they seek association with other firms by making arrangements to gain access to distribution channels, new customers, and financial sources (McCann, 1991). If there is no trust between the traders, the contracts that formalize partnerships are complex and with high control costs, and this affects the firms' performance (Teece, 1986). On the other hand, if firms have high level of interfirm trust, firms can share machinery and specific assets at fair costs that exceed their individual capacities (Dickson et al., 2006), so that they can improve their position, sharing risks and profit. Firms with better perception of interfirm trust will easily consolidate partnerships, if necessary, without the need for formal hierarchical controls (Gulati, 1998). In societies where trust promotes long-term coexistence, firms learn from their partners and develop their own processes in the medium term (McCann, 1991), improving their position in the market while sharing risks and profit (Kale & Singh, 2009).

H12 *Interfirm trust in business transactions moderates the positive relationship between hybrid growth and the firm's risk neutral competitive position objectives, so that the stronger the interfirm trust, the stronger this relationship.*

The causal relationship between growth strategies and firm performance is shown in Figure 5 below.

Figure 5. Causal relationship between variables



Source: Self-elaborated

4. Methodology

4.1 Data and sample

As mentioned in the previous chapter and according to Davidsson et al.'s (2006, p.387) recommendation, we used an homogeneous sample conformed by SMEs in the ETICS in Mexico, due to its fast growth. We designed the questionnaire in Spanish, which was validated by experts from the sector and administered to the CEOs; most answers follow a Likert scale, where 1=strongly disagree; 5=strongly agree, and the rest were ordinal or quantitative variables. After conducting a pilot in Guadalajara with 25 firms and due to the difficulty of collecting primary data, we hired BERUMEN S.A. to collect and process the information. We signed

cooperative agreements with the ANADIC and with the CANIETI, accounting for 99 % of the firms in the sector. After training 11 professionals to administer the survey and administering it throughout 12 weeks, there were 450 valid responses. The characteristics of the CEOs were identified. Most of the CEOs (99.1%) are Mexican, 78.2% are men, 2.1% studied until high school, 52.9% have a Bachelor's degree, and only 9.1% have a Masters or Doctorate degree. Additionally, 29.6% of the CEOs have attended postgraduate business courses in addition to their professional studies. 58.4% are between 20 and 40 years old. In relation to the firms, 55.3% are family businesses and 95.9% are located in Mexico City, Monterrey, and Guadalajara, most of them, 40.2%, in Mexico City. 61.6% have less than ten years in existence and 89.3% have fewer than 30 employees, which also shows that the sample is representative. According to the CEOs 53.3% are in the consolidation stage, 44.7% registered annual sales between 100,000 and 1.5 million dollars, and 44% reported a profit margin between 20% and 40%.

The SMEs are the core of the Mexican economy. According to INEGI (in Pro Mexico, 2014), SMEs generate 52 % of the country's GDP and 72 % of the jobs. The reason for this is the number of SMEs in the country, 99.7 % of the firms. Additionally, SMEs are a space to innovate and they have greater flexibility and creativity (Flores Kelly, 2013). Due to how widely spread they are, there are different governmental projects to support SMEs, such as Fondo PYME. Despite their number, SMEs in Mexico tend to disappear after some time, 82.5 % before two years (Flores Kelly, 2013). Therefore, there is the need for a modification in the way they are organized and make decisions.

4.2 Variables

We selected the variables based on previous studies. The answers followed a Likert scale. The dependent variable is SME performance, using objectives and aspiration levels as a proxy

measure (Chandler & Hanks, 1993) and being measured with five items regarding the emphasis on different objectives, as suggested by Walter et al. (2006). Both low risk-survival and high risk-profit objectives were measured by one item, indicating whether the achievements are meant to ensure long-term survival or profitability respectively. Neutral risk-competitive position was measured by three items, measuring the advantages gained from know-how, customization of technologies, and cost savings. The independent variables are the three growth strategies. Following Zou et al.'s (2010) work, organic growth was represented by internal technological development (one item), acquisitive growth by the firms' acquisitions in related or unrelated business (two items), and hybrid growth by all the partnership contracts, like franchising, licensing, and joint ventures. There were two moderating variables. IPP was measured by four items about the strength in the protection of patents and trademarks (Bontis, 1998). Interfirm trust was measured with three items regarding transactions with partners, suppliers, and clients, following the work by Rus & Iglic, (2005). Just as in prior studies, we selected firm size and firm age as control variables (McCann, 1991; Davidsson & Delmar, 1997; Wiklund & Shepherd, 2003).

With the use of SPSS, the maximum likelihood extraction, and VARIMAX rotation, we ran three exploratory factor analyses (EFA), one for growth strategies, one for intellectual property regime and interfirm trust, and one for performance. We used ordinary least squares regressions to test the hypotheses.

5. Statistical Analysis and Results

5.1 Statistical analysis

The results of the first EFA of all growth strategies' items showed the existence of three conceptual growth modes: organic, acquisitive and hybrid with 81.93% of cumulative variance, both Kaiser-Meyer-Olkin statistic, as Bartlett's Test of Sphericity were satisfactory. All communalities were above 0.5. We also calculated Cronbach's alpha for the items in the three factors and the values were greater than 0.75. The second EFA showed two factors, first corresponding to the IPP items, and second corresponding to interfirm trust, with 76.72% of cumulative variance, both Kaiser-Meyer-Olkin statistic, as Bartlett's Test of Sphericity were satisfactory, all communalities were above 0.5, and the Cronbach's alpha's results for the items in the three factors and the values were greater than 0.75. In a similar way we calculated the EFA over all the multiple-item constructs related to the performance of the SMEs identifying three factors, Cronbach's alpha value for the items of neutral risk-competitive position was 0.930 and both the Kaiser-Meyer-Olkin statistic, as well as Bartlett's Test of Sphericity yielded satisfactory results. All communalities were above 0.55. The cumulative variance represented by these three factors was 85.92%. All the loads are reported in appendix V.

We carried out reliability tests to ensure consistent results, a confirmatory factor analysis (CFA) using AMOS 22 resulted in χ^2_{66}=2.459, incremental fit index (IFI) =0.965, normal fit index (NFI) = 0.942, comparative fit index (CFI) = 0.964 and root mean square error of approximation (RMSEA) = 0.057. We conducted Chi-square tests, with a significant lower value in the base model, indicating a satisfactory discriminant validity (Bagozzi & Yi, 2012). The results of the coefficients of factor loadings are significant ($p < 0.001$) and depicted in appendix VI. The measurement model is shown in appendix VII. The correlations and descriptive statistics for the

factors estimated and control variables are presented in Table 9. As it can be appreciated in the first 8 variables, the average result is zero and the standard deviation is 1, since the variables are calculated based on the EFA and considering an orthogonal rotation. Table 9 shows that there is no correlation between the independent variables.

Table 9. Means, standard deviations, and correlations of consequences of growth strategies

Variables	1	2	3	4	5	6	7	8	9	10
1. Organic growth	1									
2. Acquisitive growth	0	0	1							
3. Hybrid growth	0	1								
4. Low risk-survival	0.580**	-0.092	-0.044	1						
5. High risk-profit	-0.043	-0.038	0.485**	0	0	1				
6. Neutral risk-competitive position	0.151**	0.410**	0.024	0	1					
7. IPP	0.372**	0.07	0.146*	0.132**	0.179**	0.085	1			
8. Interfirm trust	0.056	0. 439*	0.004	0.009	0.283*	0.006	0.0	1		
9. Firm age	-0.050	0.025	0.069	-0.058	0.077	0.115*	0.021	0.082	1	
10. Firm size	0.015	0.047	-0.053	0.06	0.106*	0.015	-0.054	0.126**	-0.056	1
Mean	0	0	0	0	0	0	0	0	8.32	17.10
Standard deviation	1	1	1	1	1	1	1	1	6.02	36.13

*p < 0.10; **p<0.01;
***p<0.001

Source: Self-elaborated

Similarly to chapter 2, the discrete choice approach that we suggested in this study assumes that one performance objective is preferred over the other two and we established the relation between the growth strategies and each of the performance's effects independently. To analyze

both the growth strategies' relations' and the institutional factors' effects over the performance's effects, the hypotheses were tested using OLS for each performance category. Because of this, the results are presented in 3 tables (Table 10 to Table 12), where each table is formed by 3 models. The first model only considers the control variables; the second model includes the independent variables regarding the growth strategies; the third model analyzes both the institutional factors' and the interactions' effects. The objective was to observe changes in the predictors' relationship to the dependent variable. Thus, the following three models were tested for each growth strategy independently. We identified that the ordinary least squares regressions (OLS) is a commonly used technique for cause-effect models. The empirical studies analyzed related to growth reaffirmed this assertion (Aidis, 2005; Rus & Iglic, 2005; Chen et al., 2009; Achtenhagen et al., 2010; Zou et al., 2010). The first model considers only the control variables: the second includes the independent variables of the growth strategies; the third takes into consideration the institutional factors as well as the effect of the growth strategies and institutional factors' interactions. The hierarchic model's objective is to observe changes in the predictors' relationship to the dependent variable. Thus, the following three models are tested[3]:

$$Y_n = \beta 0 + \beta 1\ control\ variables_n + \varepsilon_n$$

$$Y_n = \beta 0 + \beta 1\ control\ variables_n + \beta 2\ growth\ strategies_n + \varepsilon_n$$

$$Y_n = \beta 0 + \beta 1\ control\ variables_n + \beta 2\ growth\ strategies_n + \beta 3\ institutional\ factor\ variables_n + \beta 4\ interaction + \varepsilon_n$$

[3] The moderating effect was also proven through groups' analysis, dividing the sample into two. The first group included those firms with a high perception of the institutions' environmental effects, and the second one, the ones with a low perception. We further developed the OLS for both groups and compared their results. To determine if the moderating effect of the institutional variables is statistically significant, we developed a t test to compare the same coefficient from a model in two groups of the moderating variable.

Where:

Y_n = performance category (low risk-long term survival, high risk-profit, neutral risk-competitive position)

5.2 Results

As it can be observed in the following tables, the results show that the organic growth strategy has a positive effect on both, low risk-survival (β=0.568, ρ<0.001) and neutral risk-competitive position (β=0.239, ρ<0.001). The positive effect is higher on low risk-survival, which means that firms pursuing organic growth strategy are more likely to seek low risk- long term survival in the market, therefore hypothesis 7 is supported. We found that hypothesis 8 is also supported, because acquisitive growth strategy pursuing has a positive effect on high risk-profit (β=0.506, ρ<0.001), but not on the other two. Firm's age also resulted statistically significant. The higher positive effect of a hybrid growth strategy is related with neutral risk-competitive position performance (β=0.260, ρ<0.001), but not with the others, thus hypothesis 9 is also supported.

Table 10. Growth strategies and low risk- survival of the SMEs

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm age	-0.010 (0.008)	-0.003 (0.006)	-0.004 (0.006)
Firm size	0.002 (0.002)	0.002 (0.001)	0.002 (0.001)
Family business	-0.018 (0.098)	0.026 (0.077)	0.009 (0.079)
Growth strategies			
Organic		0.567 (0.044) **	0.583 (0.041) **
Acquisitive		-0.030 (0.040)	-0.031 (0.038)
Hybrid		-0.130 (0.039) **	-0.119 (0.037)
Institutional effect			
IPP			0.239 (0.039)**
Interaction			
Organic*IPP			0.114 (0.039)**
R square	0.007	0.347	0.386
F	1.021	39.156***	34.699***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Table 11. Growth strategies and high risk-profit of the SMEs

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm age	0.016 (0.009) *	0.011 (0.007)	0.011 (0.008)
Firm size	0.001 (0.002)	0.002 (0.002)	0.002 (0.002)
Family business	-0.189 (0.099)	-0.198 (0.086) *	-0.200 (0.083) *
Growth strategies			
Organic		-0.028 (0.042)	-0.017 (0.047)
Acquisitive		0.507 (0.043)**	0.512 (0.042)**
Hybrid		-0.025 (0.037)	-0.021 (0.039)
Institutional effect			
IPP			0.046 (0.049)
Interaction			
Acquisitive*IPP			-0.022 (0.047)
R square	0.020	0.277	0.279
F	3.090	28.238***	21.294***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Table 12. Growth strategies and neutral risk-competitive position of the SMEs

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm age	0.005 (0.008)	0.011 (0.007)	0.007 (0.006)
Firm size	0.002 (0.001)	0.003 (0.001)	0.002 (0.001)
Family business	0.010 (0.095)	0.027 (0.091)	0.002 (0.079)
Growth strategies			
Organic		0.244 (0.047) **	0.233 (0.040) **
Acquisitive		0.113 (0.043)	0.004 (0.041)
Hybrid		0.320 (0.049) ***	0.236 (0.049)**
Institutional effect			
Interfirm trust			0.207 (0.045)**
Interaction			
Hybrid*Interfirm trust			0.192 (0.039) **
R square	0.003	0.174	0.300
F	0.55	15.588***	23.670***

*p < 0.10; **p<0.05; ***p<0.001

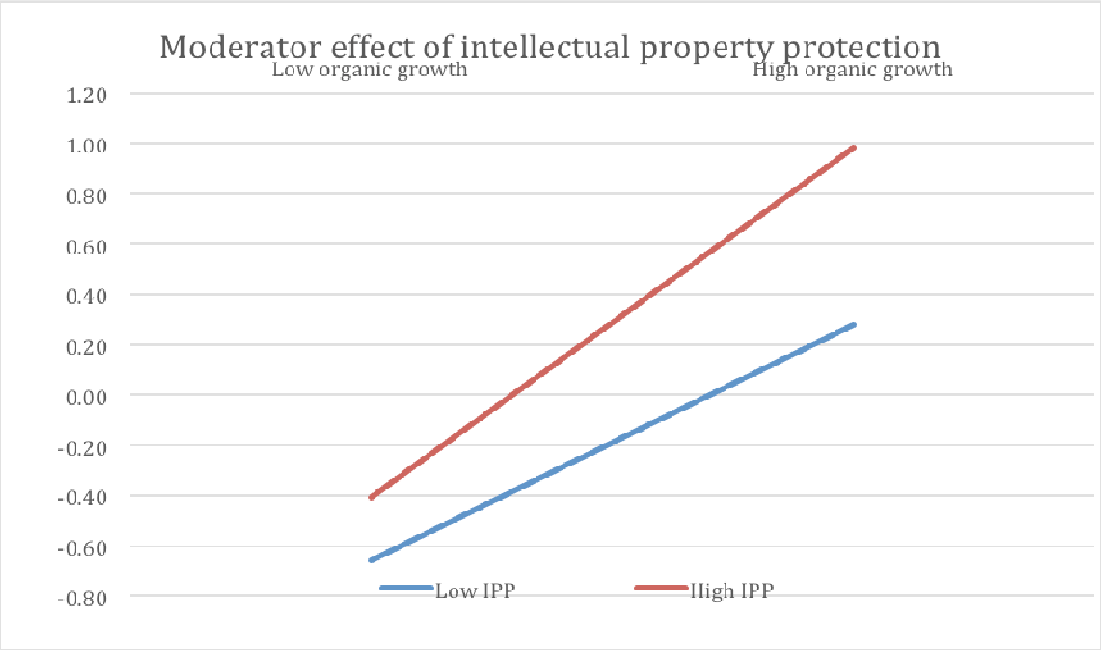
Source: Self-elaborated

Regarding the moderating effects of institutional factors, we found a positive moderating effect of IPP (β=0.092, ρ<0.10) in the relation between organic growth and low risk-survival performance, therefore hypothesis 10 is supported. IPP did not have a significant effect on the relation between acquisitive growth and high risk-profit performance, so that hypothesis 11 is not supported. Interfirm trust has a positive moderating effect on the relation between hybrid growth

and neutral risk-competitive position performance (β=0.088, ρ<0.10), therefore hypothesis 12 is supported. To better explain this, we use .

Figure 6. **Moderating effect of intellectual property protection in the relation between organic growth and low risk-survival performance**and **Figure 7**.

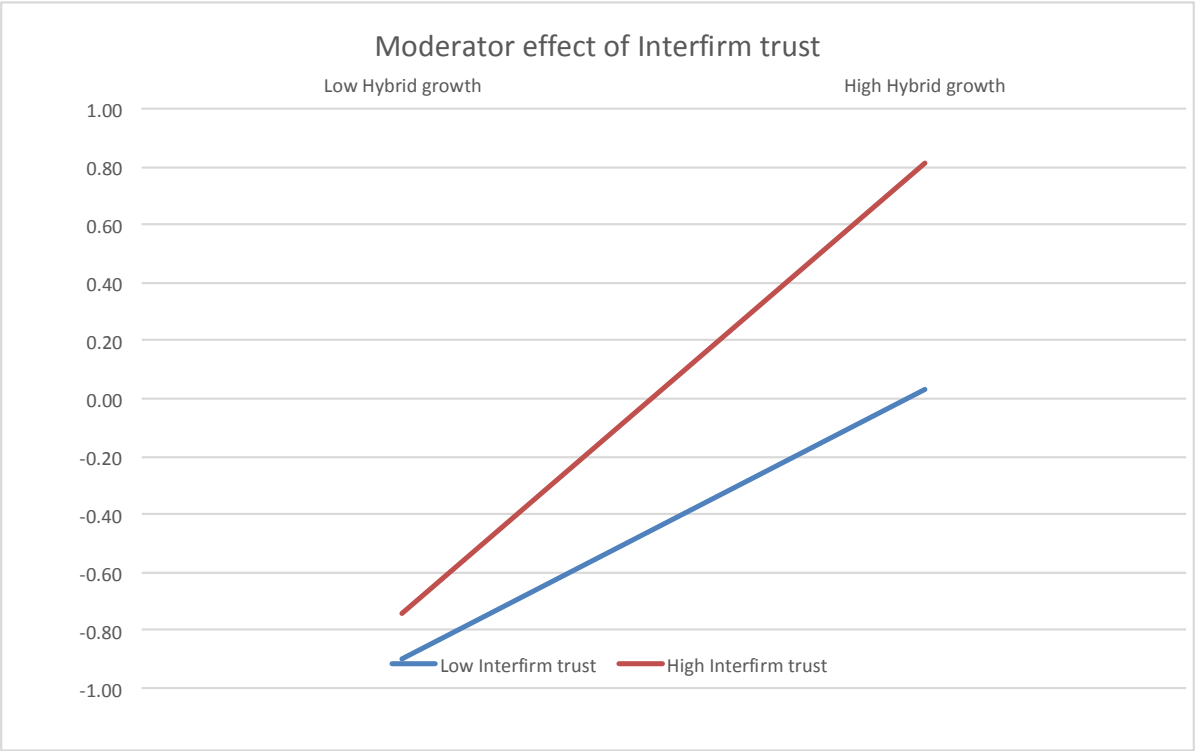
Figure 6. Moderating effect of intellectual property protection in the relation between organic growth and low risk-survival performance



Source: Self-elaborated

Figure 6 shows that the higher the IPP is the greater the intensity of the relation between organic growth and low risk-long term survival increases. In other words, there is a positive moderating effect of IPP over this relation.

Figure 7. Moderating effect of interfirm trust in the relation between hybrid growth and neutral risk-competitive position performance



Source: Self-elaborated

Similarly, Figure 7 shows that a higher interfirm trust increases the intensity of the relation between hybrid growth and neutral risk-competitive position. In other words, there is a positive moderating effect of interfirm trust over this relation.

Additionally, robustness tests were made, performing analysis for the subsamples, particularly validating them by size and age with a median split. The results are consistent for all cases and are shown in appendix VIII.

6. Discussion and Conclusions

The present study was developed as a response to the call made by scholars like Davidsson et al., (2006) and McKelvie and Wiklund (2010), who underscored the need for additional studies analyzing the *mode* of growth. This research adds to the empirical works previously developed on this stream by first identifying the existence of different growth strategies in a sample of selected firms and, afterwards, by identifying the different results generated by those strategies among the firms in the ETICS in Mexico.

The present study contributes to the literature on firm growth, analyzing the performance implication of modes of growth; the results presented here are noteworthy in providing evidence that demonstrates that different growth strategies result in different effects on firm performance. We recognize the differential impact of growth strategies on firm performance, which has been a topic proposed by researchers in the past (Gilbert et al., 2006; McKelvie & Wiklund, 2010). These results are relevant since they allow us understand better the implications of different modes of growth.

Our study shows that the performance objectives (Low risk-survival, high risk-profit, and neutral risk-competitive position) are influenced by the growth strategy preferred by firms. The results confirm prior studies on growth and performance showing that firms vary considerably in their performance when they select a specific growth strategy (Chen et al., 2009; Zou et al., 2010).

The findings enrich the understanding of two dimensions related with SMEs growth. First, they support the recent arguments of entrepreneurship scholars regarding the importance of analyzing the performance implications of organic vs. acquisitive vs. hybrid growth (Davidsson & Delmar, 1997; Pasanen, 2007; McKelvie & Wiklund, 2010). Second, as we have analyzed the similarities and differences of different modes of growth, we found results that can be useful for firm

managers and CEOs (Wiklund & Shepherd, 2003; Achtenhagen et al., 2010; Clarysse et al., 2011; Lockett et al., 2011).

As mentioned above, growth strategies are not mutually exclusive, which is consistent with the results obtained. We found that SMEs that choose an organic growth strategy are more likely to reach objectives of low risk-survival, than others with higher risk objectives, as found in other previous studies (Pasanen, 2007; Zou et al., 2010), suggesting that the organic growth strategy is commonly adopted by conservative firms securing long-term survival. We found that firms that choose organic growth concentrate on their internal operations without having to deal with partnerships or integrating other businesses, which is consistent with previous studies (Zou et al., 2010). The organic growth strategy reduces risk by involving investments of financial resources. By doing so, they reduce the financial profitability in the short term; but typically firms that grow organically are young ones that *build* their growth through the use of mainly technological resources, which allows them to react quickly to the changes in market, so they can remain in the market and *become famous.*

Regarding the acquisitive growth strategy, vertical integration allows firms to capture value and reduce costs (McCann, 1991). We found that firms that choose acquisitive growth are pursuing high risk-profit objectives. This finding supports the previous work of Gilbert et al., (2006) in which they state that firms, specially mature ones, seek to expand their business and improve financial indicators through acquisitions that make costs more efficient, due to the synergy and scale economies: ”*buying an existing firm substantially increases the year-to-year sales in the months pursuant to an acquisition*” (Gilbert et al., 2006, p. 939). The results obtained demonstrate that the acquisitive growth strategy, defined as a *buying* strategy, aimed at fast returns that increase the firms’ *fortune*.

In a similar manner, we found that firms that choose the hybrid growth strategy are willing to share both risks and profits, by *borrowing* resources they individually lack, which helps them improve their competitive position. The results confirm prior studies on networking capabilities, since firms associated in different forms gain access to external resources and jump-start their own internal process (McCann, 1991), sharing profits with their *business friends.*

We extend previous recent empirical studies of growth strategies and firm performance (Chen et al., 2009; Zou et al., 2010) by including the moderating effect of institutional factors, in relation between growth strategies and the performance objectives. We concur with previous studies showing that, in emerging economies, interdependencies may exist between managers' subjective perceptions and institutional conditions (Capelleras et al., 2010). Particularly in KIS, SMEs' owners are well aware of the importance of their knowledge and the role it plays in business performance (Kitching & Blackburn, 1999). In response to Candelin-Palmqvist et al.'s (2012) work, we found that formal mechanisms of IPP are connected to performance and business success, due to the existence of a moderating effect of the IPP on the relation between organic growth and low risk-survival objectives. We did not find that the IPP regime moderates the relationship between acquisitive growth and high risk-profit objectives. This can be explained since the owners believe that financial and non-financial costs of formal protection of the intangible exceed the benefits obtained from them (Kitching & Blackburn, 1999). This way, although there is a robust IPP regime it will not be reflected on a reduction of transaction costs in the merger and acquisition processes.

Moreover, we found that an ecosystem with high interfirm trust in the development, sale, and licensing of knowledge is positively moderated and is related to firms seeking to improve their competitive position, which is consistent to previous studies (Herrera & Lora, 2005). High-trust

relations in business transactions reduce the transactions' costs of elaborating complicated contracts, which increases the number of interfirm business transactions and allow the firms to learn from temporary alliances and to improve their competitive position. About 25 % of the firms in the sample chose a hybrid growth strategy and share risks and profit with other firms.

One of the main challenges that the managers and CEOs of the SMEs face is making the right decisions that support the accomplishment of their proposed objectives. We have demonstrated that different growth strategies pursued by the firm will generate different managerial challenges related to performance. The firms that choose organic growth are seeking for results that allow long-term survival and tend to be more conservative and guided by the CEO's perspective of the IPP regime. The firms that follow the acquisitive growth strategy chase objectives related to profit attainment performance and do vertical and horizontal integrations. Finally, firms that go for the hybrid growth strategy obtain mixed results of performance, seeking neutral risk-competitive position objectives, for which they create strategic alliances with other firms, even within the same sector.

Thus, different growth modes will give rise to different firm performances. Because of this, managers will have to be consistent in these causal relations to achieve their performance objectives. In relation to governmental public policies, contrary to what is proposed by most of the governmental support programs, two of the three growth modes do not necessarily result in increased levels of hiring or employment. Thus, adjustments to current policies suggested that these programs better meet their stated objectives of job creation, nevertheless, the three growth strategies generate value and profitability for the firms.

In conclusion, our study has demonstrated that there are relations between growth strategies and performance objectives that the SMEs seek. We acknowledge that growth strategies are not

mutually exclusive, but we found that those firms whose CEOs seek conservative objectives of survival choose organic growth; they build internally to gain *fame.* On the other end, we found that SMEs with aggressive and risky objectives seek to buy business opportunities that increase fortune in a short term. Between both groups we found the group of firms, whose objectives are to improve their competitive position, but given the lack of own resources, they borrow from other firms in exchange for sharing risks and profit; in other words, they establish business friends.

Furthermore, our study has shown that these relations may be conditioned by the institutional context. We have shown that IPP encourages the relation between the organic growth strategy and the aspirations to survive in the long term. In the same sense, we found that interfirm trust positively moderates the relation between hybrid growth modes and the objectives that seek competitive position improvement.

CHAPTER 4

ESSAY 3- THE ROLE OF THE HYBRID GROWTH STRATEGY ON THE DEGREE OF COMMITMENT IN CO-OPETITION RELATIONS

ABSTRACT

In order to survive and thrive, SMEs often establish relations with external firms, even within the same sector. These relations are known as co-opetition. The expected outcomes from co-opetition are very diverse and involve different degrees of compromise from the collaborating firms. The strength of each firm's networking capabilities has an important role in building relationships with other organizations. This paper analyzes the relation between the networking capabilities and two outcomes of co-opetition relations involving different levels of commitment from each firm. We specifically analyze the relations whose outcomes are either new product development, characterized by a high degree of compromise between collaborators, or outsourcing peripheral activities, in which firms have less involvement with one another. The main contribution from this paper is that we pay close attention to identifying the existence of the mediating effect that the hybrid growth strategy has over these relations. We argue that the hybrid growth strategy has a different effect over the relation between networking capabilities and collaborative relations, depending on the expected outcomes of these relations. The results were obtained from a binomial logit model using a self-developed database. The database is formed by 450 face-to-face surveys to SMEs, from which 296 firms took part in interfirm collaborations between 2012 and 2014. These surveys were given to the CEOs of the SMEs, which are part of the ETICS in Mexico.

1. Introduction

Despite the ongoing debate regarding the risks and benefits of collaborating with other organizations (Street & Cameron, 2007), collaboration between firms in the same sector has become increasingly popular in recent years (Gnyawali & Park, 2009). The simultaneous pursuit of cooperation and competition, also called co-opetition, has been recognized by numerous authors as a useful alternative to improve innovation and performance in firms (Panibratov & Latukha, 2014; Zhang & Wu, 2014; Bouncken et al., 2015). It has greater relevance for the SMEs, since most of them are small, have limited resources, and their competitiveness can be accelerated through co-opetition (Rosenfeld, 1996; Street & Cameron, 2007). There has been considerable interest in linking them through a variety of networks and associations to share knowledge and encourage innovation (Butler et al., 2007; Balestrin et al., 2008). Previous studies have proven that co-opetition allows firms to achieve different goals and obtain different outcomes, among which are new product development (Hansen, 1999; Ettlie & Pavlou, 2006; Corallo et al., 2012), transfer of better practices (Szulanski, 1996), training, learning (Argote, Beckman, & Epple, 1990), and outsourcing (Vitasek & Manrodt, 2012; Willcocks, 2011; Williamson, 2008). Co-opetition has been considered an effective and efficient way of success (Cavusgil et al., 2003), still the greatest challenge for these relations' success between partners of the same sector consists in finding the balance between collaboration and competition, seeking mutual benefits by pooling complementary resources, skills, and capabilities (Quintana & Benavides, 2002). Research shows that over 50 percent of collaborative relations occur between firms within the same industry or among competitors (Harbison & Pekar, 1998). Several interfirm formations occur when organizations look for new efficiency and competitive advantages. According to the desired outcome, there will be a large amount of inter-

organizational relationships. On the one extreme are those interfirm collaborations whose outcome requires no obligation for recurrent cooperation, coordination, or collaboration among the anonymous exchanging parties. On the other hand, are those interfirm collaborations in which both firms' assets and personnel are mixed and the level of coordination and compromise is big (Todeva & Knoke, 2005). In the middle ground there are diverse forms of cooperation that combine varying degrees of compromise and interaction (Williamson, 1975). We decided to focus on two outcomes we consider represent the interfirm relations of the two extremes. The first type, is formed by those firms that collaborate with firms in the same sector with the aim of new product development. The second type is formed by those firms that collaborate with firms in the same sector to outsource peripheral products or services (Todeva & Knoke, 2005).

A firm's social connections enable firms to share and transfer knowledge, resources, markets, and technology (Inkpen & Tsang, 2005). Entrepreneurship networks have been previously studied, specifically, the role of networks in encouraging and supporting knowledge-based SMEs (Hayter, 2013; Koryak et al., 2015). The value of a network's specific characteristics may be analyzed through the different ties which bind it (Hayter, 2013). We conceptualize networking capabilities as interpersonal relationships based on family members, classmates, and friends, and we also include the interfirm relationships as being based on industrial associations and governmental agencies (Chen et al., 2009). Based on this, we consider that there is a relation between an SME's networking capabilities and its decision to take part in co-opetition in both cases, when the aim is new product development and outsourcing.

In general, the allocation of the SMEs' R&C is related to the growth strategy a firm follows; growth strategies have different antecedents and have different effects on the firms' performance (Penrose, 1959). Recent studies have shown that SMEs with various network relationships will

tend to prefer the hybrid growth strategy over the organic and the acquisitive growth strategies (Zou et al., 2010). The question to be examined is this: How should the relation between networking capabilities and different outcomes of co-opetition be mediated by the hybrid growth strategy? This is why we decided to analyze the hybrid growth's mediating effect over the relation between networking capabilities and different expected outcomes of co-opetition.

This work seeks to contribute to the field by providing a better understanding of the mechanism of external relationships in small business and their impact on different business outcomes. We analyzed the relation of networking capabilities with different outcomes of co-opetition (Gnyawali & Park, 2009) to try to understand better the mechanism through which a networking capabilities' variable affects co-opetition outcomes. We also analyzed hybrid growth's role as the mediating variable in this relation, because the hybrid growth strategy is frequently used by firms, since it helps avoid a number of problems regarding managerial capacity and a lack of resources (McKelvie & Wiklund, 2010).

The primary objective is to examine the relation between a firm's networking capabilities and the two different expected outcomes of co-opetition. The second objective is to analyze the mediating effect of the hybrid growth strategy over these relations. It is expected that this study will help better understand the relation between networking capabilities and co-opetition and the effect of the hybrid growth strategy over this relation.

After the introduction, we develop a literature review around the concepts of interfirm collaboration, networking capabilities, and hybrid growth strategy and the hypotheses, in order to test the objectives previously named. To do this we use a self-developed database of 296 firms which took part in interfirm collaborations between 2012 and 2014, the result of surveying

directors of SMEs in the ETICS in Mexico. This is followed by sections on the methodology used, the findings, and the implications of the study.

2. Theory and Literature Review

2.1 Interfirm collaboration

As mentioned before, in recent years co-opetition has been widely studied. Previous studies have shown that co-opetition is important for improving the growth and performance of SMEs (Panibratov & Latukha, 2014; Perez & Galdeano-Gomez, 2015). Nevertheless, other authors consider it a double-edged sword (Bouncken & Kraus, 2013), since on the one hand, innovation increases in the firms (LeRoy & Yami, 2009), and on the other it opens a window for the opportunistic behavior of some collaborators (Nieto & Santamaria, 2007). SMEs need a balance between pursuing a competitive advantage and interfirm collaboration. For many SMEs, their ability to compete may be tied to their ability to collaborate, which shows the complexity in those relationships (Morris et al., 2007). As previously mentioned, there are several possible outcomes for co-opetition which they have been analyzed in previous works such as, acquiring means of distribution, obtaining economies of scale (Perez & Galdeano-Gomez, 2015), market seeking, vertical integration, recreating supply chain orientation (Schulze-Ehlers et al., 2014), gaining access to new technology, developing new products or new technologies, (Wessel, 2004; Ettlie & Pavlou, 2006; Corallo et al., 2012) among others. The commitment degree linked to the expected outcome of the firms when collaborating is not always the same. Different collaborative forms represent different approaches that partner firms adopt to control their dependence from the other firm. Also, they are associated with different legal forms, which enable firms to control resource allocation and the distribution of benefits among partners (Todeva & Knoke, 2005). In

other words, it does not require the same level of commitment between two firms that decide, for example, to collaborate on fulfillment of a core business objective, like new product development, in comparison to the level of commitment between firms that decide to collaborate in outsourcing a peripheral activity, such as raw material sourcing. The organizations' expected outcomes when engaging in a co-opetition activity vary according to firm-specific characteristics and multiple environmental and institutional factors (Todeva & Knoke, 2005). We selected two different expected outcomes to engage in co-opetition: new product development (Wessel, 2004; Ettlie & Pavlou, 2006) and outsourcing peripheral products or services (Agarwal & Ergun, 2008; Vitasek & Manrodt, 2012). We consider these activities as two forms of co-opetition that have different levels of commitment of the firms involved.

2.2 Social capital and networking capabilities

The term social capital is used in different ways; as business competence, as a goal for non-profit, as a legal category. The social capital theory's perspective argues that people accumulate social resources, or social capital, and invest it in social opportunities, from which they expect to get some profit (Burt, 1992). Social capital creates value by endowing well-connected actors with privileged access into intellectual, financial, and cultural resources. It has two characteristics; it includes strong technology, known as network analysis, and it has a critical effect, due to its connection to a firm's performance (Burt, 2000). The coexistence relations and the interactions among different work groups can be analyzed through networks (Rosenthal, 1997).

The concept of network is very wide. Some definitions of networking capabilities have been proposed before, such as Bourdieu's (1986, p. 248): "*The aggregate of the actual or potential*

resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition", or Nahapiet & Ghoshal's (1998, p. 243): "*As the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit*".

Monge & Contractor (1998) identified ten theoretical mechanisms to explain the emergence, maintenance, and dissolution of networks in organizational research. Particularly, the network approach to entrepreneurship perspective is associated to the mechanism by which different entities make interchanges, since networks allow access to the resources that the firms lack. A firm's social connections provide it with the opportunity to identify the subjacent interests before a firm decides to cooperate with another (Gulati, 1998). Every firm must establish connections to find resources and explore business opportunities (Zimmer & Aldrich, 1987). Not all firms possess comparable levels of network resources, and the variation in network resources across firms influences their ability to exploit useful information (McEvily & Zaheer, 1999).

Networks can be considered as a group of ties. As previously mentioned, the main difference between strong and weak ties, according to (Granovetter, 1973), is that the strong ties involve longer commitments, while the weak ties don't. He also established that the strong ties are those that interact more than once per year and at least twice per week, while the weak ties interact once or twice per week. (Krackhardt, 1992) disagrees with this definition by stating that the strong ties can have two types; constant relations and networks of Philos, which don't need a constant interaction.

Strong ties are argued to give reliable communication channels and protect the firm from exploitation, since strong ties are more likely to be useful when the firm is in an insecure, compromised situation. Strong ties are critical for the ability to build new relations in times of

crisis (Pool, 1980; Scarbrough et al., 2013). In this study, the relevant dimension is structural, since it refers to the overall pattern of connections between actors, whom they reach and how they reach them (Burt, 1992) and helps understand how some of the individual attributes increase the likelihood of performing co-opetition activities.

3. Hypotheses Development

3.1 Networking capabilities and co-opetition outcomes

Networking capabilities are the capabilities a firm develops to identify, cultivate, and manage its networks with different strategic partners and to develop its networking skills to utilize, maintain, and extend its relationships (Hayter, 2013). "*Recently, scholars have suggested that SMEs in an industry need to collaborate with competitors so that they can create economies of scale, mitigate risk, and leverage resources together* " (Gnyawali & Park, 2009, p. 309). SMEs will need networking capabilities to renew competencies and to achieve congruence with the changing business environment (Quintana & Benavides, 2002). Networking capabilities provide the SMEs with novel ideas, giving them greater access to a broader base of information and resources and enabling the transfer of knowledge among individuals or teams (Uzzi, 1997). Previous studies have analyzed the importance of co-opetition for development and improvement of new products (Huang et al., 2010; Corallo et al., 2012), like the work by Ettlie & Pavlou (2006), in which they analyzed the dynamic capabilities that result from interfirm partnerships during new product development. Another example is the work by Wessel (2004), in which he explores how new product development performance is affected by the information available between firms with formal collaboration agreements. Other authors have analyzed the importance of how knowledge from multiple partners is effectively integrated in inter-

organizational new product development (Corallo et al., 2012). The high cost and risk associated to developing a new product in the technology sector can be especially problematic for smaller firms operating with limited resources and that are especially vulnerable to environmental discontinuities (Parker, 2000). Because of this, the partners with whom a firm collaborates may play a critical role, since they represent an important source of new ideas and their commercialization (Afuah, 2000; Matt et al., 2012). These relations involve certain openness and vulnerability and they require high levels of trust among firms (Morris et al., 2007). Technological knowledge is one form of intangible asset that can serve as a source of competitive advantage when it is valuable, non-imitable, and non-substitutable (Barney, 1991); co-opetition is an important way to acquire new technological knowledge and skills from the partner and to create and access to other capabilities based on an intensive exploitation of existing R&C (Quintana & Benavides, 2002). The co-opetition to develop new products is rooted in the social network perspective (Hayter, 2013). Then we can hypothesize:

H13: The strength of networking capabilities increases the likelihood of taking part in co-opetition relations to develop new products.

Similarly, some business networks and contractual or relational alliances are driven by criteria like economic rationalities (Schulze-Ehlers et al., 2014; Galdeano-Gomez et al., 2015). Outsourcing can be defined as the act of subcontracting out all or parts of the functions of a firm to an external party (Gilley et al., 2004). Even though it can refer to all activities, in this study we focus in those activities that are not the core of the business and in which the SMEs operate below minimum efficient size, and therefore have a cost disadvantage compared to larger firms (Sarkar et al., 2001). Due to this, association with other firms allows them to obtain economies of scale and reduce costs: "*if the focal activity is not a source of sustainable competitive advantage*

- in other words, others are performing this activity at a lower cost and/or with lower quality – then it makes sense to outsource it" (Mudambi & Venzin, 2010, p. 1528). Previous studies have discovered efficient usage of outsourcing services for reducing logistics costs (Heshmati, 2003), retailing (Fisher & Raman, 1996), and revenue management (Talluri & Van Ryzin, 2004). "*For many companies, outsourcing partnerships are being used to achieve rapid, sustainable improvement in enterprise-level performance. More specifically, in addition to the baseline value of reducing costs and offloading unimportant activities, partnership with an outsourcing vendor can be used to gain access to competitive skills, improve service levels, and increase the company's ability to respond to changing business needs"*. (Linder et al., 2002, p. 23). Much of the discussion about outsourcing in the literature has focused on the potential cost saving associated with non-core activities of the firms' operation (Gilley et al., 2004), in general, SMEs tend to outsource those operations where the created value is low (Mudambi & Venzin, 2010). An important antecedent for success in outsourcing is to build network exchange structures with outsiders (Zeffane, 1995). Then we can hypothesize:

H14: The strength of the networking capabilities increases the likelihood of taking part in co-opetition relations to outsource peripheral activities.

3.2 The hybrid growth strategy as mediator

Several growth strategies have been presented in the entrepreneurship literature (Pasanen, 2007). From the growth management approach, it is possible to classify three growth strategies, each one with its own characteristics. Penrose (1959) clearly divided two of them. First, is internal or organic growth, which is focused on internal research and development (McCann, 1991). Second is external or acquisitive growth, where firms integrate when one purchases another (Levie,

1997), which is more common in mature industries and larger firms (Henrekson & Johansson, 2010). A third growth strategy is introduced. It is called hybrid growth and shares elements from both organic and acquisitive (Williamson, 1991). According to McKelvie & Wiklund (2010), it involves relationships with external actors, while retaining responsibility and control of the assets and their usage. It includes different ways of relating, like franchising, licensing, alliances, or joint ventures (McCann, 1991; Levie, 1997), some of which are more common than others in different sectors. In the hospitality sector, franchising is a common growth mode (Combs & Ketchen, 2003); in manufacturing and distribution, licensing is common among young firms that need to complement their assets (Arora et al., 2001). In contrast, when two firms decide to collaborate on technological developments, these relationships are formal and complex, since they involve a high degree of compromise from both firms and risk sharing. With these collaborations, firms can use other firms' technology to develop products instead of investing in developing the technology from the onset (McKelvie & Wiklund, 2010, p. 275). On the other hand, outsourcing also involves creating formal, contractual structures, even when the motive is related to subcontracting peripheral activities: "*Firms tend zealously to protect their core businesses and, are thus more willing to enter involving peripheral activities which offer wider scope for organizational learning and less vulnerability from sharing confidential information*" (Todeva & Knoke, 2005, p. 7). Previous studies have shown this strategy's usefulness to overcome a lack of specific technological knowledge (Hagedoorn & Schakenraad, 1994) or international/local knowledge (Lu & Beamish, 2006). Hybrid growth is based on formal, cooperative mechanisms trying to license other firms' technology to jump-start their own internal, innovative processes (McCann, 1991). The mediating function of a third variable represents the generative mechanism through which the focal, independent variable is able to

influence the dependent variable of interest (Baron & Kenny, 1986). Some authors have shown the existence of a relation between the networking capabilities and the hybrid growth strategy (Zou et al., 2010). Networking with various strategic partners contributes in sharing the risk in innovative processes (Ramachandran & Ramnarayan, 1993), exchanging information (Larson, 1991), and increasing the speed of technology transfer (Kotabe et al., 2003).

Therefore, we can hypothesize that:

H13a: The hybrid growth strategy is a mediating variable between the level of the networking capabilities and the likelihood of taking part in co-opetition relations to develop new products.

H14a: The hybrid growth strategy does not have a mediating effect between the level of the networking capabilities and the co-opetition to outsource peripheral activities.

4. Methodology

4.1 Data and sample

Like Davidsson et al. (2006) recommended, we used a homogeneous sample to find relevant information to the particular sector and type of firm. This sample is formed by SMEs in the ETICS in Mexico, due to the fast growth rate it has had in the last decade (4.560 billion USD of direct investment). We used the definition of SME set forth by the Secretary of Economy, which considers those firms with 250 employees and annual sales of up to 250 million of Mexican pesos. The questionnaire was designed in Spanish and was intended to be administered face to face to the CEOs. Additionally, experts from the sector were consulted to validate the instrument

and avoid misunderstandings with the wording. Most of the answers were expressed on a Likert scale, where 1=strongly disagree; 5=strongly agree. The rest are ordinal or quantitative variables.

A pilot project survey was done in the city of Guadalajara. To gather the information, we hired the firm BERUMEN S.A. and signed agreements with ANADIC and with the CANIETI. The final universe was 2,095 firms throughout the country; 1,092 (52.1%) in Mexico City, 556 (26.5%) in Guadalajara, 393 (18.7%) in Monterrey, and 54 (2.6%) in other states. The pilot sample consisted of 25 firms and helped in the correction of the wording of the questionnaire. Then we sent e-mails to the CEOs to invite them to participate in the study. Based on the positive responses, we arranged face-to-face appointments in Mexico City, Guadalajara, and Monterrey and carried out the survey by phone in the rest of the cities. We obtained 450 valid responses distributed as follows: 40% located in Mexico City, 28% in Guadalajara, 23% in Monterrey, and 9% in other cities. From these 450, 296 firms had engaged in interfirm collaborations in the last three years, and were thus chosen to test the hypotheses. In

Table 13. Sample characteristics of SMEs who made collaborations with firms in the same sector

we present some characteristics found in this subgroup.

Table 13. Sample characteristics of SMEs who made collaborations with firms in the same sector

	Frequency	%
CEO Nationality		
Mexican	293	99
Not Mexican	3	1
CEO Sex		
Male	234	79.1
Female	62	20.9
CEO Highest educational degree		
Elementary school	17	5.7
High school	77	26
Technical	45	15.2
College	127	42.9
Master/PhD	28	9.5
None	2	0.6
CEO Additional Management Courses		
Yes	91	30.7
No	202	68.2
Unanswered	3	1
CEO Age		
Less than 20	1	0.3

	Frequency	%
Business Cycle		
Early Stage	18	6.1
Initial Growth Stage	75	25.3
Growth Stage	166	56.1
Mature Stage	35	11.8
Unanswered	2	0.7
Company age until 2014		
Between 1 and 5	134	45.3
Between 6 and 10	75	25.3
Between 11 and 15	47	15.9
More than 15	40	13.4
Number of employees during 2014		
Less than 30	262	88.2
Between 30 and 60	18	6.1
Between 61 and 100	6	1.9
Between 101 and 200	9	2.6
Between 201 and 220	1	0.3
Business Sales during 2014 (million pesos)		
Less than 1	153	50.9
Between 1 and 20	117	38.9

Table 13. Sample characteristics of SMEs who made collaborations with firms in the same sector (continued)

Between 20 and 30	97	32.8	Between 21 and 40	14	4.5
Between 31 and 40	93	31.3	Between 41 and 60	4	1.2
Between 41 and 50	62	21.1	Between 61 and 80	7	2.2
Between 51 and 60	33	11	Between 81 and 100	0	0
Between 61 and 70	7	2.3	Between 101 and 120	1	0.3
More than 70 years	3	0.9	Between 121 and 140	0	0
			Between 141 and 160	0	0
Family Business			More than 160	0	0
Yes	171	57.8	Unanswered	0	0
No	125	42.2			
Company Location					
Mexico City	114	38.5			
Monterrey	75	25.3			
Guadalajara	73	24.7			
Other	34	11.5			

Source: Self-elaborated

4.2 Variables

The unit of analysis for this study is the motive to establish a collaborative relationship, and we selected two different expected outcomes. The first is to develop and/or improve new products. New product development studies have highlighted many industries, but they have primarily focused on high technology industries (Wessel, 2004). This paper incorporates an ETICS industry perspective of new product development, asking the CEOs whether they had developed new products with another company within the sector in the past three years. The second is related to cost reduction through outsourcing (Todeva & Knoke, 2005). Similar to the first expected outcome, respondents were asked to indicate whether they outsourced services to another company within the sector in the past three years. The independent variable is

networking capabilities. They include all the partnership relations of the firm: internal and external links, including personal networks. The item asks about interpersonal (friends, family members, colleagues) and interfirm (government agencies, professional associations, relations with investors) relationships. (Fu et al.,2006). The mediating variable is the hybrid growth strategy, which contains two items. The first relates a firm's growth with licensing (buying or selling) technology to other firms. The second relates growth with the establishment of any kind of partnership contract, such as franchising, licensing, and joint ventures (Zou et al., 2010).

Logit regressions were done for each outcome for interfirm collaborations. To perform the appropriate analysis for testing mediational hypotheses, we followed the previous work by Baron & Kenny (1986). At first, a logit regression is done about networking capabilities (causal variable) and the expected outcome of the collaboration (dichotomous dependent variable). Afterwards, it was proven that the networking capabilities are related to hybrid growth (mediating variable) through a linear regression. This step essentially involves treating the mediator as if it were an outcome variable. Then we did a logit regression, considering as the dependent variable the expected outcome to collaborate and as predictors both the networking capabilities and the hybrid growth strategy. We did so, because it is not enough to only relate the hybrid growth strategy with the dependent variable, because the mediating variable and the dependent variable can also be related, since both are caused by the networking capabilities. Therefore, the networking capabilities must be controlled when establishing the mediator over the dependent variable.

5. Statistical Analysis and Results

5.1 Statistical analysis

We used SPSS to develop two exploratory factor analyses (EFA), in both we used the maximum likelihood extraction method and VARIMAX rotation. The first EFA is about the firms' networking capabilities; the second one relates the items to the hybrid growth strategy. The first EFA's results showed that there was a factor we named networking capabilities, which matches the expected solutions. Similarly, the second EFA's results showed that there was a factor, which we named hybrid growth. We obtained satisfactory results from both the Kaiser-Meyer-Olkin statistic and the Bartlett's Test of Sphericity; all communalities were above 0.5 and the cumulative variance of all sets of factors was over 79% (appendix IX). We carried out reliability tests to ensure consistent results, a confirmatory factor analysis (CFA) using AMOS 22 resulted in χ^2_7=2.56, incremental fit index (IFI) =0.992, normal fit index (NFI) = 0.988, comparative fit index (CFI) = 0.992, and root mean square error of approximation (RMSEA)=0.073. We conducted Chi-square tests, with a significant lower value in the base model, indicating a satisfactory discriminant validity (Bagozzi & Yi, 2012). The results of the coefficients of factor loadings are significant ($p < 0.001$) and are depicted in appendix X. The measurement model is shown in appendix XI. In Table 14 we can see that there is a correlation between the hybrid networking capabilities and strategy, which is expected by the nature of both constructs. This relationship was analyzed in chapter 2 of this thesis. There was not a problem of multicollinearity since the mediating effect of the hybrid strategy was tested. Since the dependent variable is categorical, in order to prove the hypotheses, we developed logit regression models.

Table 14. Means, standard deviations, and correlations of consequences of growth strategies

Variables	1	2	3	4
1. Networking capabilities	1			
2. Hybrid growth	0.624**	1		
3. Firm age	0.049	0.005	1	
4. Firm size	0.117*	0.040	-0.041	1
Mean	0	0	8.53	17.83
Standard deviation	1	1	6.32	11.16

*p < 0.10; **p<0.01; ***p<0.001

Source: Self-elaborated

5.2 Results

Table 15 presents the logit models' estimations related to co-opetition to develop a new product. First, a direct path between the networking capabilities and the outcome of new product development total score was established using logit regression (coefficient = 0.391, $p < 0.01$). To examine whether or not this path was mediated by the hybrid growth total score, first, the path from networking capabilities to hybrid growth, total score was examined and found to be significant (coefficient = 0.618, $p < 0.001$). Next, networking capabilities and hybrid growth total score were entered simultaneously with new product development. Results show that the path from hybrid growth total score to new product development total score was significant (coefficient = 0.448, p=0.002), whereas the path from networking capabilities symptoms to new product development was no longer significant (coefficient =0.124, p=0.406). Thus, the requirements of Baron & Kenny (1986) for full mediation were met.

Regarding the H13 of this paper, there is evidence showing that networking capabilities affect significantly the probability of collaborating with another firm within the sector to develop new products (coefficient = 0.391, $p < 0.01$). Regarding H13a, we identified that there is a total mediating effect of the hybrid growth strategy, because by applying the mediating variable to the model, the direct effect between the networking capabilities and collaborating to develop new products was found to be irrelevant (coefficient = 0.124), while the effect of the hybrid growth strategy over collaborating to develop new products was significant (coefficient = 0.448, $p < 0.002$). Therefore, the hypothesis is supported. Figure 8 displays the relation between these variables and the results shown in Table 15.

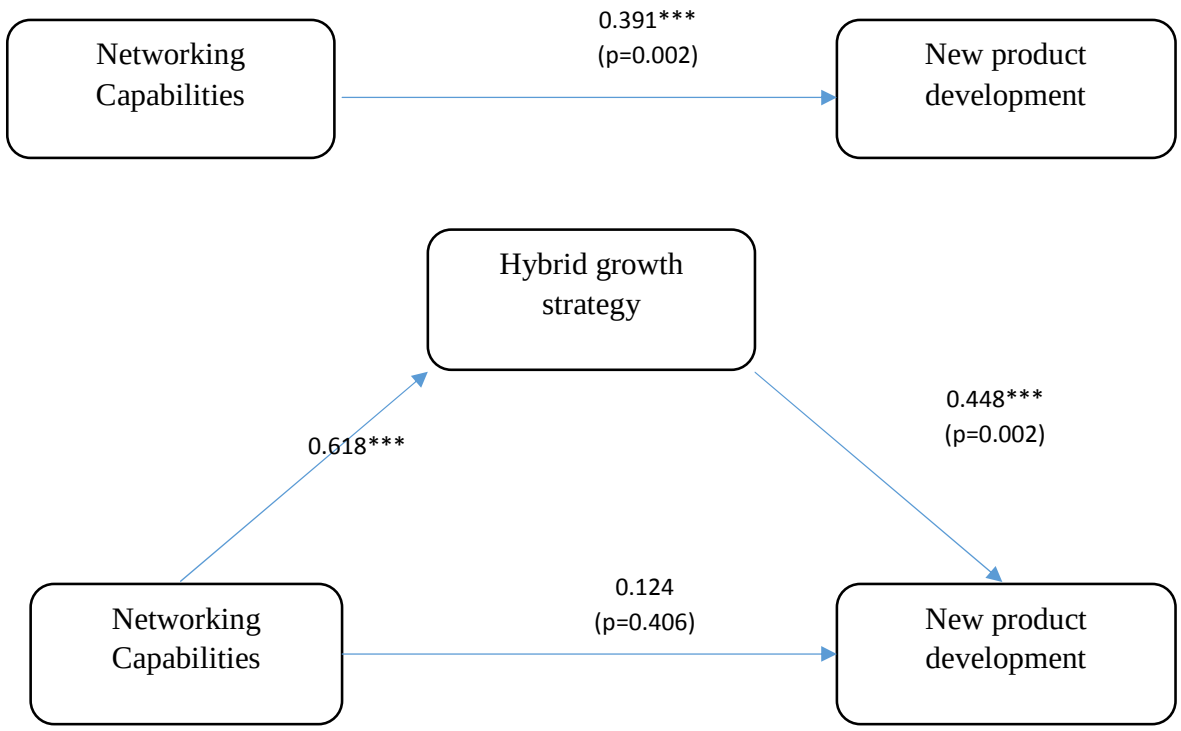
Table 15. Logit models' analyses for networking capabilities related to co-opetition to develop new products, mediated by the hybrid growth strategy

Dependent	**Independent(s)**	**β**	**S.E.**	**Wald**	**-2 of verisimilitude**	No. of observations
Hybrid growth	Networking capabilities	0.618***	0.048			
New product development	Networking capabilities	0.391**	0.120	10.671	399.151	296
New product development	Networking capabilities	0.124	0.149	0.692		
	Hybrid growth	0.448**	0.148	9.233	389.509	296

*p<0.1; **p<0.01;***p<0.001

Source: Self-elaborated

Figure 8. Relations between networking capabilities and new product development, mediating effect of hybrid growth strategy



Source: Self-elaborated

Similarly, Table 16 shows the logit models' estimations related to the outsourcing of peripheral activities. First, a direct path between the networking capabilities and the outcome of outsourced peripheral activities total score was established using logit regression (coefficient = 0.540, *p* = 0.000). To examine whether or not this path was mediated by hybrid growth total score, first, the path from networking capabilities to hybrid growth, total score was examined and found to be significant (coefficient = 0.618, p = 0.001). Next, networking capabilities and hybrid growth total score were entered simultaneously with outsourced peripheral activities. Results show that the path from hybrid growth total score to outsource peripheral activities total score was not significant (coefficient = 0.080, p = 0.601), whereas the path from networking capabilities

symptoms to outsourced peripheral activities was significant (coefficient = 0.492, p = 0.002). Thus, there is no mediating effect of hybrid growth strategy.

Regarding the H14 of this paper, there is evidence showing that the networking capabilities affect significantly the probability of collaborating with another firm within the sector to develop new products (coefficient = 0.540, *p* = 0.000). Therefore, the hypothesis is supported. Regarding hypothesis H14a, we identified that the effect of the hybrid growth strategy over collaborating to outsource services is not statistically significant (coefficient = 0.080). Therefore, it is not considered as a mediating variable in the relation between the networking capabilities and the outsourcing of peripheral activities, thus the hypothesis is supported. Figure 9 summarizes the results presented in the table.

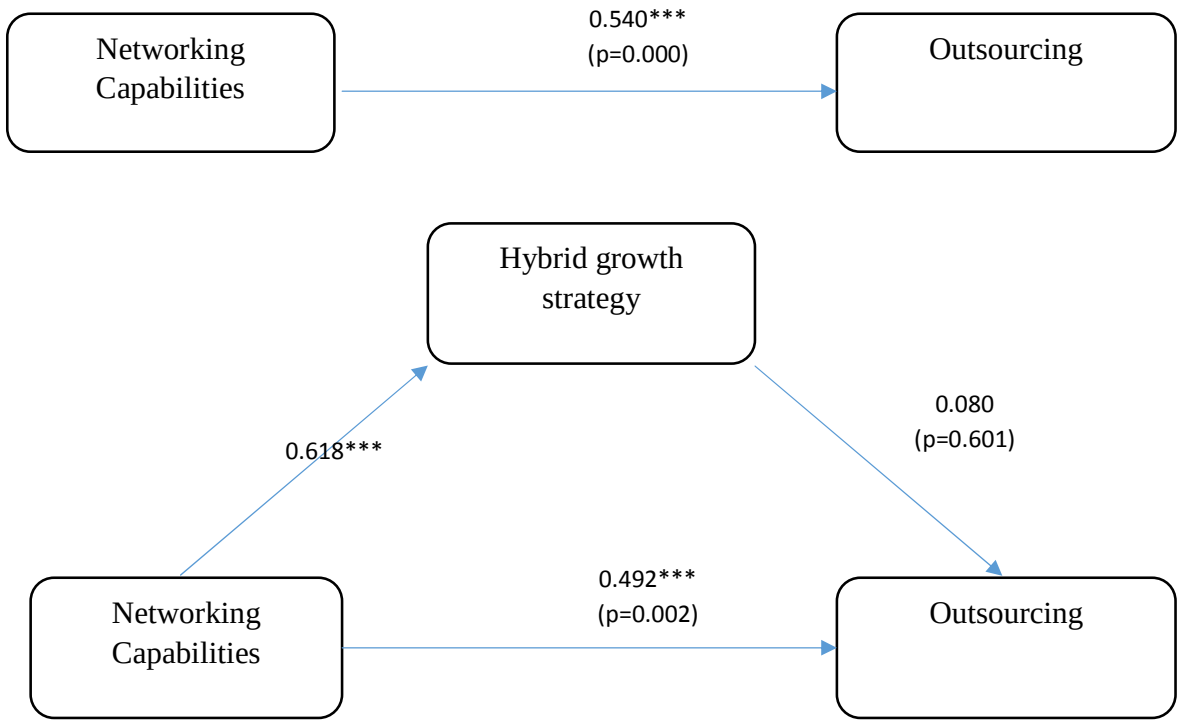
Table 16. Logit models' analyses for networking capabilities related to co-opetition to outsource peripheral activities, mediated by the hybrid growth strategy

Dependent	**Independent(s)**	**β**	**S.E.**	**Wald**	**-2 of verisimilitude**	No. of observations
Hybrid growth	Networking capabilities	0.618***	0.048			
Outsource peripheral activities	Networking capabilities	0.540***	0.134	16.196	360.966	296
Outsource peripheral activities	Networking capabilities	0.492**	0.162	9.248		
	Hybrid growth	0.080	0.154	0.273	360.693	296

*p<0.1; **p<0.01;***p<0.001

Source: Self-elaborated

Figure 9. Relations between networking capabilities and outsourcing, mediating effect of the hybrid growth strategy



Source: Self-elaborated

6. Discussion and Conclusions

Collaboration mechanisms allow firms to obtain positive outcomes, due to the identification of partnering opportunities (Todeva & Knoke, 2005). Particularly, since most SMEs are small and have limited resources, they have an incentive to create value through association (Lumpkin & Dess, 1996; Shane & Venkataraman, 2000). Previous studies have shown the importance of SMEs establishing connections to resources and niches in an opportunity structure. This process is motivated by a firm's own R&C (Aldrich & Zimmer, 1986; Dubini & Aldrich, 1991). These networking capabilities allow firms to identify both business opportunities and resources (Aldrich & Zimmer, 1986).

Even though there are different possible outcomes when SMEs collaborate with firms within the same sector (Todeva & Knoke, 2005), we decided to analyze two particular cases. The first is related to the expected outcome that examines when SMEs within the same sector collaborate to develop new products. The second is related to those SMEs within the same sector that collaborate to outsource peripheral activities (Schulze-Ehlers et al., 2014; Perez & Galdeano-Gomez, 2015).

The obtained results show that the intensity of the networking capabilities' allocation increases the likelihood of firms deciding to engage in co-opetition with firms within the same sector, in order for them to together develop new products (Quintana & Benavides, 2002; Haeussler et al., 2012) and to outsource peripheral activities, which is consistent with previous studies (Gnyawali & Park, 2009).

Our results match those of previous studies. An example is the one done by Sherer (2003), in which it was found that networks are the means to involve interdependent firms involved in similar activities into participating in collaborative development of new products. Another example is the work by Ettlie & Pavlou (2006), which showed that partnership dynamic capabilities significantly influence the new product development.

Regarding the likelihood to outsource peripheral activities, our results show that the intensity of networking capabilities increases the likelihood of outsourcing with other firms within the same sector. This is consistent with the study by Sherer (2003), which discovered soft or explorative networks allow firms to share resources and engage in collaborative, cost reducing strategies. Other authors, such as Agarwal & Ergun (2008), also agree with our findings, since they found that collaborative service networks provide the capacity to reduce costs through outsourcing in communication and transport services.

We consider our most relevant contribution to be related with the results obtained regarding the hybrid growth strategy's mediating effect, since it is, according to different authors, an area with little empirical research (Gilbert et al., 2006; McKelvie & Wiklund, 2010). When firms decide to follow the hybrid growth strategy, they base their growth on licensing technology to/from other firms, sharing technology in both directions, and partnering with other firms in core objectives.

Our results show that the hybrid growth strategy is a mediating variable between the networking capabilities and the co-opetition to develop new products (Haeussler et al., 2012; Tomlinson & Fai, 2013). "*Hybrid modes consist of contractual relationships that bind external actors to the firm at the same time as the firm maintains a certain amount of ownership and control over how any assets are used*" (McKelvie & Wiklund, 2010, p. 274). We agree with the results obtained by Gnyawali & Park (2009) who showed that firms need to establish strategies to pursue ways to simultaneously engage in collaboration and competition with other firms in the industry, since their competitors' resources are more useful than those that come from other sectors and because they can be used directly in the development of new products. New product development co-opetition is an important research issue that represents the forefront of the changing dynamics of competition and cooperation (Wind & Mahajan, 1997).

Additionally, our results showed that the hybrid growth strategy does not have a mediating effect on the relation between networking capabilities and the likelihood of outsourcing peripheral activities between companies within the same sector, contrary to what was expected. This may be because some firms consider outsourcing exclusively as a cost-reduction process and not as a strategy to develop performance-based partnerships and, in general, they do not involve licensing or technology transfer processes: "*[There] are excellent examples of collaborative, flexible and innovative approaches to project and outsourcing contracts. Unfortunately the state of the art in*

this area has long been grounded, for the most part, in non-flexible task-oriented contracts that focus primarily on risk avoidance, liability limitation and lowest possible cost" (Vitasek & Manrodt, 2012, p. 5). Another reason could be that, when two firms work together to develop a new product, the risk and the protection against opportunistic behavior can force the firms to create contracts for the secrecy and knowledge transfer, which is a characteristic of hybrid growth. But, in the traditional conception of outsourcing peripheral activities, the level of compromise, the interrelation, and high risk are not as evident in these types of contracts, making them less trust-based and simpler.

CHAPTER 5

CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS OF THE DISSERTATION

In the first chapter of this doctoral dissertation, we explained how we decided to analyze SMEs' growth from its less studied dimension, trying to deepen our understanding about how firms grow. To do so, we established three objectives:

- To examine the relations between resource endowment and the firms' capabilities and the growth strategy they follow, as well as the effect of some institutional factors as moderators
- To identify how the growth strategy selected by a firm is related with the SME's performance, as well as the effect of some institutional factors as moderators
- To analyze the relation between the networking capabilities and the outcomes of different collaborations, as well as the effect of the hybrid growth strategy as mediator over this relation

Building on the RBV and IT, we analyzed empirically the antecedents and consequences of the SMEs' growth strategic decisions. The discoveries made, regarding the first two objectives, proved the existence of a direct relation both between the specific resource endowment and the growth strategies and between the growth strategies and a firm's performance. Additionally, we discovered the positive moderating effect of some institutional factors over these relations. Regarding the third objective, we found evidence demonstrating that, even though the networking capabilities have an important role within firm co-opetition, the hybrid growth modes only have a mediating effect over the interfirm collaborations with a high level of compromise between the collaborating firms

In this chapter we provide the main conclusions obtained related to these three research objectives, which were individually developed and studied in each of the three essays preceding this chapter. Additionally, in this chapter the implications and limitations of the dissertation and suggestions for future studies are shown.

1. Main Conclusions of the Essays

The first research objective was to identify relations between resource endowment and a firm's capabilities and the growth strategy it follows, as well as the moderating effect of the institutional factors. Based on the results obtained, we conclude that there is a relation between the endowment of some R&C with the type of growth strategy selected by an SME, which is consistent with the results reported in previous studies (Chen et al., 2009; Zou et al., 2010). We found a direct relation between the TR&C and organic growth, between the financial R&C and acquisitive growth, and between the networking capabilities and hybrid growth. Additionally, we contributed to previous research on the topic by analyzing the moderating effect of the institutional factors over the relations previously mentioned. Our conclusions are that not all the institutional factors selected, moderate these relations. We found that credit access moderates positively the relation between financial resources and capabilities and acquisitive growth. Similarly, interfirm trust moderates positively the relation between networking capabilities and hybrid growth. On the other hand, and contrary to our expectations, we did not find statistically significant evidence that demonstrates that the IPP moderates the relation between the TR&C and organic growth.

The second research objective was to identify how the growth strategy selected by a firm is related with SME performance, as well as the moderating effect of institutional factors. Due to the evidence from the obtained results, we conclude that the different growth strategies cause

different effects in firms' performance and that some institutional factors moderate these relations. These results are relevant since they allow us better understand the performance implications of different modes of growth. We discovered that SMEs growing through organic growth are more likely to seek objectives of low-risk, long-term survival, which is consistent with previous studies (Pasanen, 2007; Zou et al., 2010). Firms that grow through acquisitive growth pursue high risk-profit objectives. In a similar manner, we found that firms that grow through hybrid growth share risks and profits to improve their competitive position by borrowing resources from others. The results confirm prior research findings on partnership capabilities showing that firms use different forms of associations to gain access to external resources and to jump-start their own internal process (McCann, 1991).

Similar to the first objective, we decided to analyze the moderating effect of institutional factors. Considering the results obtained, we concluded that the IPP regime moderates positively the relation between organic growth and low risk-survival objectives. In the same way, we discovered that interfirm trust moderates positively the relation between hybrid growth and neutral risk-competitive position performance objectives. We have not found statistically significant evidence that demonstrates that the IPP moderates the relation between the acquisitive growth and high risk-profit performance. Therefore, we concluded that certain institutional factors moderate the relation between growth strategies and the performance objectives.

The third objective was to identify the relation between the networking capabilities and the collaboration outcomes, as well as to identify the mediating effect the hybrid growth strategy has over this relation. We concluded that the likelihood to get involved in co-opetition activities, both to develop new products and to outsource peripheral activities, increases according to the networking capabilities in the SMEs. We also found out that the hybrid growth strategy is a

mediating variable between the networking capabilities and the co-opetition to develop new products. The hybrid growth strategy does not have a mediating effect when the co-opetition´s outcome is to outsource peripheral activities. This may be because, when two firms work together to develop a new product, the risk and the protection against opportunistic behavior force firms to involve in contractual organizational forms as, non-disclosure agreements, which is a characteristic of hybrid growth. On the other hand, in the traditional conception of outsourcing peripheral activities, the level of compromise, the interrelation, and the lower risk are not as present in these types of contracts

Despite firm growth being a widely studied topic during the past decades, it still remains relevant to both academics and practitioners. We agree with other authors about it being a complex subject: "*growth is a complex and multidimensional phenomenon and cannot be adequately explained from a single perspective*" (Capelleras & Rabetino 2008, p. 95). Nevertheless, we consider the results presented here a relevant contribution in better understanding and expanding the knowledge regarding the form in which growth is presented, which has been considered in previous studies as a necessary and fundamental aspect in the study (Davidsson et al., 2006; McKelvie & Wiklund, 2010).

Table 17 shows the main contributions of this dissertation through the hypotheses tested in each one of the essays.

Table 17. Summary of the contributions through hypotheses

Essay	Hypotheses	Result
1	**H1.** The endowment of technological capabilities is positively related to organic growth strategy.	*Supported*
	H2. The endowment of financial resources is positively related to acquisitive growth strategy.	*Supported*
	H3. The endowment of networking capabilities is positively related to hybrid growth strategy.	*Supported*
	H4. The IPP moderates positively the relationship between technological capabilities and organic growth; such that the stronger the IPP regime, the stronger this relationship is.	*Not supported*
	H5. Credit access moderates positively the relationship between the financial resources and the acquisitive growth strategy; such that the stronger the credit access is, the stronger this relationship is.	*Supported*
	H6. Interfirm trust moderates positively the relationship between networking capabilities and the hybrid growth, such that the stronger the interfirm trust is, the stronger this relationship is.	*Supported*
2	**H7.** Organic growth strategy is more likely to reach the firm's objectives of low risk-survival than others with higher risk objectives.	*Supported*
	H8. Acquisitive growth strategy is more likely to obtain high risk-profit than others with lower risk objectives.	*Supported*
	H9. Hybrid growth strategy is more likely to reach firm's objectives of neutral risk-competitive position than high risk-profit, or low risk-survival objectives.	*Supported*
	H10. The IPP moderates the positive relationship between organic growth and the firm's low risk-survival objectives, so that the stronger the IPP regime, the stronger this relationship.	*Supported*
	H11. The IPP moderates the positive relationship between acquisitive growth and the firm's high risk-profit objectives so that the stronger the IPP regime, the stronger this relationship.	*Not supported*
	H12. Interfirm trust in business transactions moderates the positive relationship between hybrid growth and the firm's neutral risk-competitive position objectives, so that the stronger the interfirm trust, the stronger this relationship.	*Supported*
3	**H13.** The strength of networking capabilities increases the likelihood of taking part in co-opetition relations to develop new products.	*Supported*
	H13a. The hybrid growth strategy is a mediating variable between the level of the networking capabilities and the likelihood of taking part in co-opetition relations to develop new products.	*Supported*
	H14. The strength of the networking capabilities increases the likelihood of taking part in co-opetition relations to outsource peripheral activities.	*Supported*
	H14a. The hybrid growth strategy does not have a mediating effect between the level of the networking capabilities and the co-opetition to outsource peripheral activities.	*Supported*

Source: Self-elaborated

2. Implications

Similarly, the thesis's implications associated with the three previous chapters are presented. The findings enrich the understanding of two dimensions related with SMEs' growth. First, they highlight the importance of analyzing the performance implications of organic vs. acquisitive vs. hybrid growth (Davidsson & Delmar, 1997; Pasanen, 2007; McKelvie & Wiklund, 2010). Second, as we have analyzed the similarities and differences of different modes of growth, we found results that can be useful for firm' managers and CEOs (Achtenhagen et al., 2010; Clarysse et al., 2011; Lockett et al., 2011; Wiklund & Shepherd, 2003).

As mentioned in chapter 2, we found that the endowment of R&C within a firm is related to its growth strategy and that there are institutional factors moderating some of these relations. Because of this, managers will have to be consistent in the allocation of resources in order to achieve their growth objectives. Firms that ignore the fact that their R&C are related to the growth strategies or that institutional factors affect them will be at a disadvantage with respect to those who are conscious of it. SMEs that choose to follow the organic growth strategy need to have strong TR&C, invest in R&D and new products and patents, as well as develop their own processes. On the other hand, there are the firms that choose acquisitive growth. They must have a greater endowment in financial resources, including diverse sources of financing and low cost capital coming from both internal generation and from bank loans or IPO. Firms that choose to grow through hybrid growth have to develop and sustain strong networking capabilities, using their previous relations with friends, family, and school mates, as well as chambers and professional colleges, to establish their business relationships. Additionally, the CEOs that follow the acquisitive growth strategy must take into account credit access and other sources of

financing. Similarly, firms following the hybrid growth strategy must take into account their level of interfirm trust they have.

In chapter 3 we found the existence of a direct relation between growth strategies and the SMEs' performance. The implications of these results are that conservative firms that seek low risk-survival should follow the organic growth strategy, thereby sacrificing short term profit. This relation is moderated by the CEOs' IPP regime's perspective, which is related with the investment in the technological development of the firm. The firms that seek high risk-profit objectives, prefer the acquisitive growth strategy, integrating both vertical and horizontally. And last, firms seeking neutral risk-competitive position objectives for both performance and risk will grow through the hybrid forms, like licensing or acquiring technology from other firms, creating strategic alliances with other firms, even within the same sector.

Deepening into the hybrid growth forms, the obtained results show that the networking capabilities' strength increases the likelihood of collaborating with other firms to obtain different outcomes. When carrying out co-opetition activities that necessitate high levels of compromise and involvement, CEOs need to consider formalizing and protecting their firms from possible opportunistic behavior through legal forms of alliance. This same degree of strictness is not required when the outcome is outsourcing peripheral activities.

In the end, two of the growth strategies examined do not necessarily increase the level of job creation; nevertheless, all growth strategies generate value and profitability. Therefore, we consider that, in terms of public policies, all growth strategies should be supported and not get biased towards any one in particular.

3. Limitations

Although the study provides some interesting findings, several limitations should be noted. This study analyzed relations between antecedents, consequences, and special characteristics of the growth strategies in a single environment and in a single sector. The study was designed to be developed in a relatively homogeneous sector of the economy, making the results valid for this sector exclusively. Another limitation was that we used a single informant approach in our data collection, therefore a bias problem can occur. The results expressed here were obtained from a unique observation in time. We show the results obtained from a sample of the ETICS, however it is advisable to analyze other sectors within the same environment. The results of the study implicitly consider the institutional effects of the environment, for the particular case of Mexico, which we consider is a limitation of this study.

The decision of "how to grow" is a complex process for the firms, responding to several factors that can vary over time. Even though we recognize that the growth strategies are not mutually exclusive, the choice approach that we suggested assumes that the SMEs prefer one growth strategy over the other two, which is a limitation for this study. Due to the difficulty of obtaining quantitative data to measure performance's indicators, such as increase in sales, output margin, or other financial indicators, such as ROA or ROI, we used qualitative data related to performance objectives, which we consider a limitation of the empirical study.

In terms of the mediating effect of the hybrid growth strategy between the intensity of the networking capabilities and the co-opetition outcomes, our study only considers the two selected expected outcomes due to the difference in the compromise level needed by the firms. Therefore, we consider this a limitation to this dissertation.

4. Future Research Directions

Basing ourselves on this dissertation's results, we discovered multiple future research directions. Even though we consider the data supplied by the CEOs as a valuable source of information, we consider a first general line of research to be centered in replicating this research, but based on information that includes more than one informant per SME. Following the thoughts of the first two parts of this chapter, we will present the subsequent future lines of research for each one of the empirical essays.

In the case of the first two essays, we consider interesting analyzing the antecedents and consequences of the parallel combination of growth modes. Another line of research should focus on doing a longitudinal analysis during a period of time and on analyzing the existence the sequencing of different growth strategies and their implications on a firm's performance, or an analysis of a real-time, longitudinal case study of firms utilizing different growth modes. We show the results obtained from a sample of the ETICS, however it is advisable to analyze other sectors in the same environment, for example a non-technological sector, and contrast the results of both studies. Another line of research could analyze firms' growth strategies and performance in different countries to identify the moderating effect of institutional factors in different contexts on both growth strategies and SME performance. Another line of research would be identifying the effect the growth strategies have over the firms' performance, taking into consideration both quantitative indicators, like increased sales, revenue margin, or other reasons of financing, and qualitative data.

Regarding the third essay, we also deem interesting analyzing the mediating effect of the hybrid growth strategy in the relation between the intensity of the networking capabilities and the co-

opetition, while considering more outcomes that reflect the different levels of relations between the firms, and analyzing the results of said collaborative relations with objective performance indicators. An additional line of research could be centered on measuring the benefits, in terms of performance, in function of the different co-opetition's outcomes. Additionally, we consider that another suggested line of research would be to analyze the knowledge sharing and transfer processes in co-opetition.

We hope that our study will inspire further investigations on the relation of SMEs' growth strategies.

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APPENDIX

Appendix I. EFA results for antecedents of growth strategies

EFA of resources and capabilities	F1	F2	F3	F4	F5	F6
Technology capability (CA=0.849)						
09. Allocates a high percentage of resources on new product development	0.889					
13. We are looking for new skilled employees, taking into account internal recommendations	0.846					
10. We own patents, intellectual property, products and processes themselves	0.848					
11. Internal research and development is greatly emphasized	0.840					
Financial resource (CA=0.702)						
17. It is based on the use of retained earnings.			0.823			
18. It is based on bank credits			0.810			
Networking capabilities (CA=0.902)						
23. Government through partnerships and professional events (Chambers, Associations)		0.881				
20. Business Partners through partnerships and professional events (Chambers, Associations)		0.879				
21. Business based on previous relationships with friends, family and school ex-mates		0.861				
22. Government based on previous relationships with friends, family and school ex-mates		0.823				
Intellectual property protection (CA=0.808)						
24. Patent laws in Mexico provide adequate protection of intellectual property						0.827
25. In the last decade patent protection has strengthen in Mexico as a means of protection of new technologies						0.838
26. The strategic role of property rights in our company has increased.						0.733
Credit access (CA=0.869)						
34. We think that the banks facilitate granting credit to firms like ours				0.868		
31. We think that the financial system provides adequate support to SME				0.838		
33. The bank paperwork is easy				0.835		

32. There are enough means of financing from private financial entities for growing firms	0.796	
Interfirm trust (CA=0.786)		
29. We trust in our customers		0.827
30. We trust in our business partners		0.800
28. We trust in the legal environment for doing business with other		0.770

KMO and Bartlett´s Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.847
Bartlett's Test of Sphericity - Approx. Chi-Square	4259.662***
DF	153
% of Cumulative Variance	73.47%

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

CA Cronbach's alpha

Source: Self-elaborated

EFA of growth modes	F1	F2	F3
Growth mode - Organic (CA=0.856)			
36. Our firm's growth is founded on R&D of products and processes to innovate		0.935	
35. Internal development via innovation and R&D		0.934	
Growth mode - Acquisitive (CA=0.894)			
40. The acquisition of other firms or business units, business related to our business	0.949		
39. The acquisition of other firms or business units, business NOT related to our business	0.942		
Growth mode - Hybrid (CA=0.802)			
37. License technology to / from other firms (we shared technology in any direction)			0.913
38. Strategic alliances or some other form of association			0.903
KMO and Bartlett´s Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.671		
Bartlett's Test of Sphericity - Approx. Chi-Square	2099.811***		
% of Cumulative Variance	87.22%		

$p < 0.10$; * $p < 0.05$; **$p<0.01$; ***$p<0.001$

CA Cronbach's alpha

Source: Self-elaborated

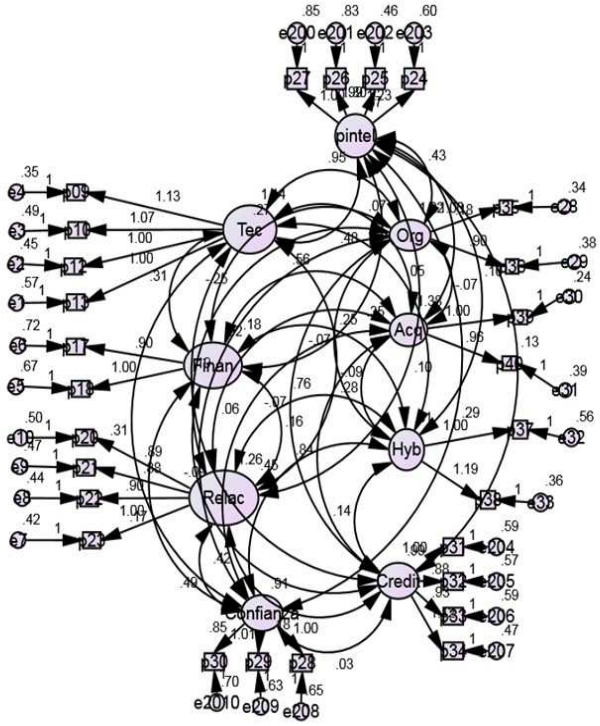
Appendix II. Loadings for antecedents of growth strategies

Items	Loading
Technology capability	
09. Allocates a high percentage of resources on new product development	0.897
13. We are looking for new skilled employees, taking into account internal recommendations	0.816
10. We own patents, intellectual property, products and processes themselves	0.852
11. Internal research and development is greatly emphasized	0.848
Financial resource	
17. It is based on the use of retained earnings.	0.534
18. It is based on bank credits	0.569
Networking capabilities	
23. Government through partnerships and professional events (Chambers, Associations)	0.856
20. Business Partners through partnerships and professional events (Chambers, Associations)	0.808
21. Business based on previous relationships with friends, family and school ex-mates	0.821
22. Government based on previous relationships with friends, family and school ex-mates	0.839
Intellectual property protection	
24. Patent laws in Mexico provide adequate protection of intellectual property	0.790
25. In the last decade patent protection has strengthen in Mexico as a means of protection of new technologies	0.845
26. The strategic role of property rights in our company has increased.	0.665
Credit access	
34. We think that the banks facilitate granting credit to firms like ours	0.880
31. We think that the financial system provides adequate support to SME	0.790
33. The bank paperwork is easy	0.768
32. There are enough means of financing from private financial entities for growing firms	0.753
Interfirm trust	
29. We trust in our customers	0.767
30. We trust in our business partners	0.700
28. We trust in the legal environment for doing business with other companies.	0.759
Growth mode - Organic	
36. Our firm's growth is founded on R&D of products and processes to innovate	0.853
35. Internal development via innovation and R&D	0.880

Growth mode - Acquisitive	
40. The acquisition of other firms or business units, business related to our business	0.881
39. The acquisition of other firms or business units, business NOT related to our business	0.918
Growth mode - Hybrid	
37. License technology to / from other firms (we shared technology in any direction)	0.757
38. Strategic alliances or some other form of association	0.885
Model fit: χ^2_{288}=1.592, p=0.000; CFI=0.976, IFI=0.976, GFI=0.931; RMSEA=0.036	

Source: Self-elaborated

Appendix III. AMOS output of measurement model of antecedents of growth strategies



Source: Self-elaborated

Appendix IV. Robustness tests with subsamples validating firm size, and firm age, for growth strategies.

Resources and capabilities and organic growth strategy of the SMEs by size (small)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		0.000 (0.010)	
Family business		-0.054 (0.119)	
Resources and capabilities			
Technological		0.612 (0.062)**	
Financial		0.117 (0.061)*	
Networking capabilities		-0.132 (0.062)**	
Institutional effects			
IPP			
Interaction			
Technological*IPP			
R square		0.424	
F		28.651***	

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and organic growth strategy of the SMEs by size (big)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		-0.006 (0.006)	
Family business		-0.068 (0.088)	
Resources and capabilities			
Technological		0.695 (0.053)**	
Financial		0.133 (0.042) **	
Networking capabilities		-0.074 (0.047)	
Institutional effects			
IPP			
Interaction			
Technological*IPP			
R square		0.508	
F		50.088***	

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and organic growth strategy of the SMEs by age (new)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		-0.001 (0.001)	
Family business		0.048 (0.097)	
Resources and capabilities			
Technological		0.683 (0.061)**	
Financial		0.102 (0.053)*	
Networking capabilities		-0.075 (0.056)	
Institutional effects			
IPP			
Interaction			
Technological*IPP			
R square		0.483	
F		36.651***	

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and organic growth strategy of the SMEs by age (old)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		0.003 (0.003)	
Family business		-0.136 (0.102)	
Resources and capabilities			
Technological		0.648 (0.055)**	
Financial		0.144 (0.047)**	
Networking capabilities		-0.117 (0.054) **	
Institutional effects			
IPP			
Interaction			
Technological*IPP			
R square		0.465	
F		41.991***	

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and acquisitive growth strategy of the SMEs by size (small)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		0.018 (0.011)	-0.001 (0.010)
Family business		0.016 (0.135)	0.027 (0.113)
Resources and capabilities			
Technological		0.083 (0.069)	0.168 (0.052)**
Financial		0.349 (0.080)**	0.092 (0.066)
Networking capabilities		0.041 (0.068)	0.017 (0.053)
Institutional effects			
Credit access			0.612 (0.066)**
Interaction			
Financial*Credit access			0.166 (0.076)**
R square		0.128	0.469
F		5.740***	24.393***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and acquisitive growth strategy of the SMEs by size (big)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		0.011 (0.011)	-0.005 (0.008)
Family business		0.011 (0.118)	0.020 (0.096)
Resources and capabilities			
Technological		-0.044 (0.062)	0.015 (0.045)
Financial		0.416 (0.059)**	0.223 (0.052) **
Networking capabilities		0.039 (0.062)	-0.055 (0.046)
Institutional effects			
Credit access			0.555 (0.060)**
Interaction			
Financial*Credit access			0.092 (0.047)**
R square		0.189	0.478
F		11.355***	31.494***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and acquisitive growth strategy of the SMEs by age (new)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		-0.001 (0.001)	-0.002 (0.001)
Family business		-0.140 (0.123)	-0.002 (0.111)
Resources and capabilities			
Technological		-0.063 (0.067)	-0.001 (0.057)
Financial		0.374 (0.067)**	0.179 (0.065)**
Networking capabilities		0.053 (0.065)	-0.022 (0.052)
Institutional effects			
Credit access			0.548 (0.070) **
Interaction			
Financial*Credit access			0.067 (0.069) *
R square		0.166	0.398
F		7.793***	18.343***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and acquisitive growth strategy of the SMEs by age (old)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		-0.003 (0.003)	-0.003 (0.002)
Family business		0.094 (0.121)	-0.018 (0.095)
Resources and capabilities			
Technological		0.055 (0.061)	0.117 (0.041)**
Financial		0.395 (0.065)**	0.149 (0.053)**
Networking capabilities		0.031 (0.063)	-0.038 (0.047)
Institutional effects			
Credit access			0.587 (0.058) **
Interaction			
Financial*Credit access			0.136 (0.052)**
R square		0.152	0.508
F		8.698***	35.384***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and hybrid growth strategy of the SMEs by size (small)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		-0.012 (0.010)	-0.014 (0.010)
Family business		-0.150 (0.113)	-0.127 (0.109)
Resources and capabilities			
Technological		0.045 (0.057)	0.019 (0.060)
Financial		0.138 (0.060) **	0.133 (0.064) **
Networking capabilities		0.511 (0.058) **	0.481 (0.061) **
Institutional effects			
Interfirm trust			0.158 (0.066) **
Interaction			
Networking capabilities* Interfirm trust			0.047 (0.056)
R square		0.330	0.351
F		19.248 ***	14.918 ***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and hybrid growth strategy of the SMEs by size (big)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		0.003 (0.007)	-1.488E-005 (0.007)
Family business		0.050 (0.098)	0.053 (0.090)
Resources and capabilities			
Technological		0.091 (0.053)*	0.002 (0.047)
Financial		0.097 (0.047)**	0.080 (0.045)*
Networking capabilities		0.709 (0.052)**	0.536 (0.066)**
Institutional effects			
Interfirm trust			0.382 (0.080)**
Interaction			
Networking capabilities* Interfirm trust			0.121 (0.054)**
R square		0.464	0.525
F		42.040***	38.111***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and hybrid growth strategy of the SMEs by age (new)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		-0.001 (0.001)	-0.002 (0.001) **
Family business		-0.034 (0.118)	-0.039 (0.107)
Resources and capabilities			
Technological		0.109 (0.062)*	0.057 (0.064)
Financial		0.042 (0.057)	0.041 (0.054)
Networking capabilities		0.615 (0.057) **	0.62 (0.056) **
Institutional effects			
Interfirm trust			0.235 (0.061) *v
Interaction			
Networking capabilities* Interfirm trust			0.083 (0.052) *
R square		0.381	0.425
F		24.089***	20.465***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Resources and capabilities and hybrid growth strategy of the SMEs by age (old)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		0.001 (0.002)	-5.714E-005 (0.002)
Family business		0.019 (0.102)	0.049 (0.097)
Resources and capabilities			
Technological		0.051 (0.049)	-0.018 (0.049)
Financial		0.165 (0.053)**	0.142 (0.054) **
Networking capabilities		0.622 (0.053) **	0.491 (0.063) **
Institutional effects			
Interfirm trust			0.325 (0.073) **
Interaction			
Networking capabilities* Interfirm trust			0.122 (0.056) **
R square		0.422	0.474
F		35.369***	30.935***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Appendix V. EFA results of concequences of growth strategies

EFA of growth modes			
	F1	**F2**	**F3**
Growth mode - Organic (CA=0.856)			
35. Internal development via increasing resources, both human and physical			0.935
36. Internal development via innovation and R&D			0.934
Growth mode – Acquisitive (CA=0.894)			
40. The acquisition of other firms or business units, business NOT related to our business	0.949		
39. The acquisition of other firms or business units, business related to our business	0.942		
Growth mode - Hybrid (CA=0.802)			
37. License technology to / from other firms (we shared technology in any direction)		0.913	
38. Strategic alliances or some other form of association		0.903	
KMO and Bartlett´s Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.671		
Bartlett's Test of Sphericity - Approx. Chi-Square	2099.811***		
% of Cumulative Variance	87.22%		

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

CA Cronbach´s alpha

Source: Self-elaborated

EFA of institutional factors		
	F1	**F2**
Intellectual property protection (CA = 0.888)		
24. Patent laws in Mexico provide adequate protection of intellectual property		0.915
25. In the last decade patent protection has strengthen in Mexico as a means of protection of new technologies		0.898
26. The strategic role of property rights in our company has increased.		0.896
Interfirm trust (CA = 0.798)		
29. We trust in our customers and suppliers	0.859	
30. We trust in our business partners	0.838	
28. We trust in the legal environment for doing business with other companies.	0.825	
KMO and Bartlett´s Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.847	
Bartlett's Test of Sphericity - Approx. Chi-Square	4259.662***	
DF	153	
% of Cumulative Variance	73.47%	

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

CA Cronbach´s alpha

Source: Self-elaborated

EFA SME performance			
	F1	**F2**	**F3**
Long-term survival			
41. Survival in the market in the long term		0.971	
Profit attainment			
45. Increasing the level of profitability			0.977
Realized competitive advantages (CA=0.836)			
43. Competitive advantage through the creation of own know-how	0.889		
42. Competitive advantage through the best performance facing competition	0.859		
44. Competitive advantage through differentiation of products and services	0.849		
KMO and Bartlett´s Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.684		
Bartlett's Test of Sphericity - Approx. Chi-Square	626.915***		
DF	10		
% of Cumulative Variance	85.37%		
$p < 0.10$; * $p < 0.05$; **$p<0.01$; ***$p<0.001$			
CA Cronbach´s alpha			

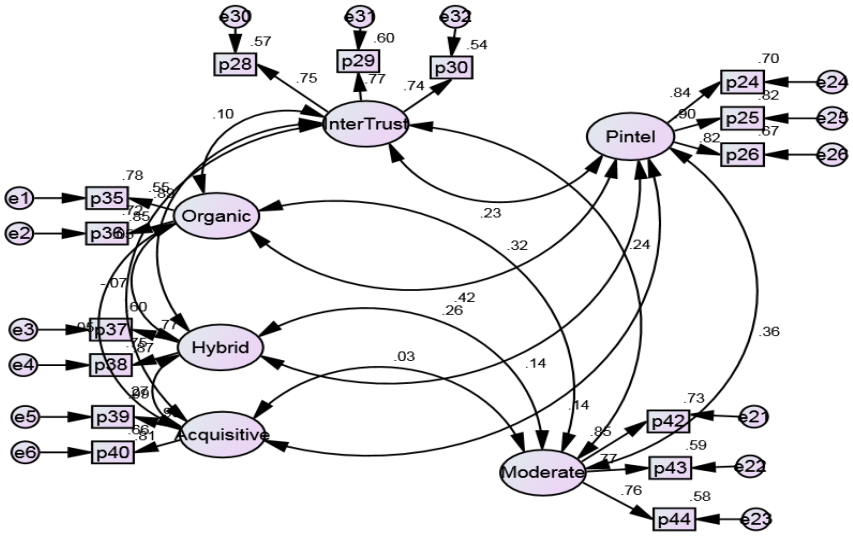
Source: Self-elaborated

Appendix VI. Loadings for consecuences of growth strategies

Items	Loading
Growth strategies	
Growth mode - Organic	
36. Our firm's growth is founded on R&D of products and processes to innovate	0.853
35. Internal development via innovation and R&D	0.880
Growth mode - Acquisitive	
40. The acquisition of other firms or business units, business related to our business	0.881
39. The acquisition of other firms or business units, business NOT related to our business	0.918
Growth mode - Hybrid	
37. License technology to / from other firms (we shared technology in any direction)	0.757
38. Strategic alliances or some other form of association	0.885
Firm performance	
Low risk- survival	
41. The achievements of our company have focused Long term survival of our firm in the market	*[a]
High risk-profit	*[a]
45. The achievements of our company have focused on increase the profit level	
Model fit: χ^2_{66}=2.459, p=0.000; CFI=0.964, IFI=0.965, GFI=0.953; RMSEA=0.057	
a Single scale	
Neutral risk- competitive position	
42. The achievements of our company have focused to develop advantages in the customization of performance over our competitors	0.852
43. The achievements of our company have focused to develop advantages in the creation of know-how	0.766
44. The achievements of our company have focused to develop advantages in the value-added products and services.	0.765
Model fit: χ^2_7=2.567, p=0.000; CFI=0.992, IFI=0.992, GFI=0.9981; RMSEA=0.073	

Source: Self-elaborated

Appendix VII. AMOS output of measurement model of consequences of growth strategies



Source: Self-elaborated

Appendix VIII. Robustness tests with subsamples validating firm size, and firm age, for performance.

Growth strategies and low risk-long term survival of the SMEs by size (small)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		-0.008 (0.010)	-0.008 (0.009)
Family business		-0.006 (0.128)	-0.057 (0.116)
Firm growth strategy			
Organic		0.505 (0.064)**	0.557 (0.061) **
Acquisitive		0.021 (0.056)	0.019 (0.056)
Hybrid		-0.204 (0.061)	-0.191 (0.061)
Institutional effects			
IPP			0.158 (0.061)**
Interaction			
Organic* IPP			0.134 (0.060)**
R square		0.336	0.392
F		19.745***	17.740***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and low risk-long term survival of the SMEs by size (big)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		-0.002 (0.008)	-0.003 (0.008)
Family business		0.037 (0.100)	0.038 (0.104)
Firm growth strategy			
Organic		0.610 (0.059) **	0.604 (0.058) **
Acquisitive		-0.066 (0.053)	-0.066 (0.052)
Hybrid		-0.088 (0.051)	-0.076 (0.052)
Institutional effects			
IPP			0.126 (0.052)**
Interaction			
Organic* IPP			0.091 (0.050)*
R square		0.358	0.385
F		27.094***	21.574***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and low risk-long term survival of the SMEs by age (new)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		0.000 (0.002)	0.000 (0.002)
Family business		-0.007 (0.115)	0.016 (0.114)
Firm growth strategy			
Organic		0.554 (0.072)**	0.591 (0.068)**
Acquisitive		-0.089 (0.066)	-0.090 (0.063)
Hybrid		-0.144 (0.067)	-0.142 (0.066)
Institutional effects			
IPP			0.178 (0.058)**
Interaction			
Organic* IPP			0.146 (0.052)**
R square		0.296	0.355
F		16.453***	15.264***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and low risk-long term survival of the SMEs by age (old)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		0.006 (0.002)**	0.006 (0.003)**
Family business		0.056 (0.103)	0.017 (0.104)
Firm growth strategy			
Organic		0.573 (0.052)**	0.579 (0.051) **
Acquisitive		0.005 (0.048)	0.005 (0.045)
Hybrid		-0.128 (0.048)	-0.113 (0.050)
Institutional effects			
IPP			0.115 (0.053)**
Interaction			
Organic* IPP			0.097 (0.048)**
R square		0.396	0.426
F		31.765***	25.403***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and high risk-profit of the SMEs by size (small)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		0.018 (0.012)	
Family business		-0.188 (0.122)	
Firm growth strategy			
Organic		-0.078 (0.062)	
Acquisitive		0.528 (0.065)**	
Hybrid		-0.064 (0.065)	
Institutional effects			
IPP			
Interaction			
Acquisitive * IPP			
R square		0.314	
F		17.836***	

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and high risk-profit of the SMEs by size (big)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		0.004 (0.010)	
Family business		-0.218 (0.111)**	
Firm growth strategy			
Organic		-0.009 (0.066)	
Acquisitive		0.496 (0.059)**	
Hybrid		-0.004 (0.049)	
Institutional effects			
IPP			
Interaction			
Acquisitive * IPP			
R square		0.261	
F		17.159***	

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and high risk-profit of the SMEs by age (new)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		0.001 (0.002)	
Family business		-0.273 (0.112)**	
Firm growth strategy			
Organic		-0.124 (0.063)*	
Acquisitive		0.456 (0.063)**	
Hybrid		-0.077 (0.046)	
Institutional effects			
IPP			
Interaction			
Acquisitive * IPP			
R square		0.280	
F		15.229***	

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and high risk-profit of the SMEs by age (old)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		0.004 (0.003)	
Family business		-0.139 (0.117)	
Firm growth strategy			
Organic		0.037 (0.059)	
Acquisitive		0.539 (0.057)**	
Hybrid		0.022 (0.056)	
Institutional effects			
IPP			
Interaction			
Acquisitive * IPP			
R square		0.289	
F		19.714***	

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and neutral risk-competitive position of the SMEs by size (small)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		0.023 (0.012)*	0.016 (0.011)
Family business		0.120 (0.140)	0.152 (0.130)
Firm growth strategy			
Organic		0.296 (0.066)**	0.251 (0.063)**
Acquisitive		-0.001 (0.066)	-0.002 (0.064)
Hybrid		0.417 (0.081)**	0.372 (0.079)**
Institutional effects			
Interfirm trust			0.150 (0.065)**
Interaction			
Hybrid * Interfirm trust			0.226 (0.063)**
R square		0.225	0.295
F		11.307***	11.535***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and neutral risk-competitive position of the SMEs by size (big)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's age		0.001 (0.008)	0.003 (0.007)
Family business		-0.044 (0.113)	-0.114 (0.100)
Firm growth strategy			
Organic		0.174 (0.059)**	0.228 (0.053)**
Acquisitive		-0.002 (0.055)	0.012 (0.048)
Hybrid		0.269 (0.064)**	0.138 (0.063)**
Institutional effects			
Interfirm trust			0.277 (0.063)**
Interaction			
Hybrid * Interfirm trust			0.343 (0.052)**
R square		0.123	0.303
F		6.790***	14.935***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and neutral risk-competitive position of the SMEs by age (new)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		0.003 (0.002)**	0.002 (0.002)
Family business		0.088 (0.134)	0.116 (0.116)
Firm growth strategy			
Organic		0.266 (0.084)**	0.218 (0.067)**
Acquisitive		-0.001 (0.072)	0.015 (0.062)
Hybrid		0.321 (0.083)**	0.231 (0.074)**
Institutional effects			
Interfirm trust			0.167 (0.065)**
Interaction			
Hybrid * Interfirm trust			0.364 (0.056)**
R square		0.179	0.367
F		8.531***	16.071***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Growth strategies and neutral risk-competitive position of the SMEs by age (old)

(Non-standardized β coefficients. Robust standard errors are in parentheses.)

Variables	Model 1	Model 2	Model 3
Control			
Firm's size		0.001 (0.002)	0.001 (0.002)
Family business		-0.045 (0.117)	-0.076 (0.113)
Firm growth strategy			
Organic		0.226 (0.059)**	0.222 (0.051)**
Acquisitive		0.011 (0.053)	0.015 (0.052)
Hybrid		0.327 (0.068)**	0.232 (0.067)**
Institutional effects			
Interfirm trust			0.264 (0.066)**
Interaction			
Hybrid * Interfirm trust			0.222 (0.060)**
R square		0.169	0.267
F		9.837***	12.470***

*p < 0.10; **p<0.05; ***p<0.001

Source: Self-elaborated

Appendix IX. EFA results of networking capabilities and hybrid growth strategy

EFA of resources and capabilities	**F1**
Networking capability (CA=0.902)	
23. Government through partnerships and professional events (Chambers, Associations)	0.900
20. Business partners through partnerships and professional events (Chambers, Associations)	0.884
21. Business based on previous relationships with friends, family and school ex-mates	0.893
22. Government based on previous relationships with friends, family and school ex-mates	0.892
KMO and Bartlett´s Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.714
Bartlett's Test of Sphericity – Approx. Chi-Square	1093.007***
DF	6
% of Cumulative Variance	79.63%

$p < 0.10$; * $p < 0.05$; **$p<0.01$; ***$p<0.001$

CA Cronbach's alpha

Source: Self-elaborated

EFA of growth modes	**F1**
Growth mode - Hybrid (CA=0.802)	
37. License technology to / from other firms (we shared technology in any direction)	0.913
38. Strategic alliances or some other form of association	0.903
KMO and Bartlett´s Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.671
Bartlett's Test of Sphericity - Approx. Chi-Square	2099.811***
% of Cumulative Variance	87.22%

p < 0.10; * p < 0.05; **p<0.01; ***p<0.001
CA Cronbach's alpha.

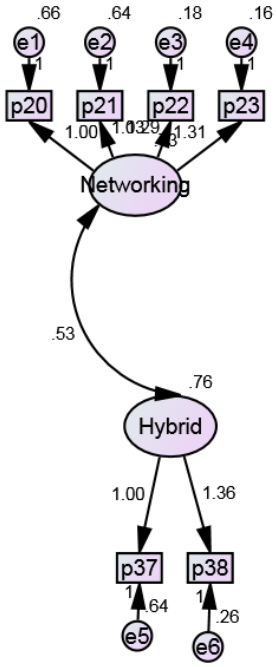
Source: Self-elaborated

Appendix X. Loadings for networking capabilities and hybrid growth

Items	Loading
Hybrid growth	
37. License technology to / from other firms (we shared technology in any direction)	0.738
38. Strategic alliances or some other form of association	0.918
Networking capabilities	
23. Government through partnerships and professional events (Chambers, Associations)	0.941
20. Business Partners through partnerships and professional events (Chambers, Associations)	0.725
21. Business based on previous relationships with friends, family and school ex-mates	0.741
22. Government based on previous relationships with friends, family and school ex-mates	0.935
Model fit: χ^2_7=2.567, p=0.000; CFI=0.992, IFI=0.992, GFI=0.9981; RMSEA=0.073	

Source: Self-elaborated

Appendix XI. AMOS output of measurement model of networking capabilities and hybrid growth.



Source: Self-elaborated