

**Knowledge Management and Firm Performance: The Mediating Effect of
Entrepreneurial Orientation.**



Por

Camilo Franco-Ruiz

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Asesores

Sergio M. Afcha Chávez – CENTRUM

Juan Pablo Román Calderón - EAFIT

CENTRUM CATÓLICA GRADUATE BUSINESS SCHOOL

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Abstract

Entrepreneurship in Latin-American is high compared to other regions. However, there is little innovation. (Lederman, Messina, Pienknagura, & Rigolini, 2014). Lumpkin and Dess (1996) highlighted that holding an Entrepreneurial Orientation (EO) relies on possessing five dimensions that contribute to a Firm Performance (FP). Therefore, a question arises about to what extent firms from emerging markets, such as Colombian companies, possess this orientation and to what extent EO has presented a positive relationship on their FP. In addition, to what extent these firms that implemented Knowledge Management (KM) practices have seen the EO-FP relationship influenced. Few studies are found that reflect the reality of firms from Latin-American markets in this context (Chen, Saarenketo, & Puumalainen, 2016; Martin & Javalgi, 2016) A quantitative, cross-sectional and correlational research was conducted in a sample of Medellin companies.

This research found that there is a positive significant relationship between KM and FP on Colombian companies, although this relationship is fully mediated by EO. This should encourage managers from emerging economies to implement KM practices that have a positive effect on their Sales Growth. However, these practices ought be accompanied simultaneously with the promotion of EO. EO must be identified as a “strategic dimension” that companies recurrently present in a given period of time (J. G. Covin & Slevin, 1991). Also, EO does not remain constant over time; companies that possess it may show phases of high EO and low EO, based on their strategic reactions to environmental conditions (Wales, Monsen, & McKelvie, 2011). As KM practices influence positively firm innovation performance (Alegre, Sengupta, & Lapiedra, 2011), companies can expect better innovation performance when they implement KM practices. However, without EO, KM may not have any effect on a company’s Sales Growth, since it needs EO to mediate in such relationship.

One of the limitations of this research is that the data collected is mainly from Medellin's companies. Also, the small sample size of 90 observations may present another limitation. Similar studies from different countries in Latinamerica can be carried out and comparative analyses can be performed with this research in the Colombian context.



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Chapter 1: Introduction

Lederman, Messina, Pienknagura, and Rigolini (2014) assured that the number of entrepreneurship per capita, in terms of the creation of new companies, of the Latin-American region is high compared to other regions, not only of informal enterprises but also of formally established companies. However, the authors also concluded that despite the large quantity of entrepreneurship that is present in Latin America, there is little innovation in terms of products, services and processes (Lederman et al., 2014). This leads to believe that Latin-American companies may possess notorious internal abilities that allow them to shine as being entrepreneurial.

Regarding these entrepreneurial capabilities, according to Lumpkin and Dess (1996) holding an Entrepreneurial Orientation (EO) relies on the possession of five dimensions “autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness” (Lumpkin & Dess, 1996, p. 149), that contribute to a Firm Performance (FP). Therefore, a question arises about to what extent firms from emerging markets, such as Colombia companies, possess this orientation and, if so, to what extent EO has presented a positive relationship on their FP. In addition, another question arises about to what extent firms from emerging markets, such as Latin-American companies, that implemented Knowledge Management (KM) practices have experienced its influence on the EO-FP relationship. KM, understood as the process of creating, storing and sharing knowledge within an organization (Turner & Minonne, 2010).

As a result, this research aimed, initially, to investigate the relationship between EO and FP and the moderating effect that KM may present on this relationship. However, as the research was carried out, a different relation among the chosen variables was identified. Therefore, a KM-EO-FP relationship was proposed, with EO serving as a full mediator in such relationship. First, the structure of this research will be explained in Chapter I,

considering the main purpose of what will be studied and why it is worth investigating. Then a Literature Review will be presented in Chapter II, to determine the state of the art regarding the research topic. Next, the Research Methodology will be explained in Chapter III, to establish how the research will be implemented. Then, Results of Data analysis will be presented in Chapter IV. Finally, Conclusions, implications and recommendations of this research will be discussed in Chapter V.

Background of the Problem

When analyzing worldwide enterprises which have grown significantly in recent years, both startups and established enterprises, international rankings may be of help to classify such companies. The ranking developed by The Boston Consulting Group (2014) can be taken as a reference. It highlights 50 global enterprises as the most innovative in that year. This ranking collects data regarding the actions that sampled companies take in term of innovation activities and analyzes their impact on three financial measures: Three-year total shareholder return (TSR), three-year revenue growth and three-year margin growth (The Boston Consulting Group, 2014). For instance, enterprises such as Apple (# 1 on the ranking) are present, which was founded in 1976 (Richardson & Terrell, 2008). Despite its time on the market, Apple has managed to reinvent itself and grow continuously, thanks to its innovation capabilities that allowed the inception of products such as the iPod, iPhone and iPad and the innovative strategies for customer service (Bajarin, 2012). This can be confirmed with Apple's share performance, which it is part of what Lumpkin and Dess (1996) considered a measure of overall performance. During the last ten years, its stock price moved from USD 5.95 in March 1st 2005 to USD 119.56 February 1st 2015 (Yahoo Finance, 2015a). Moreover, there are companies in the Ranking such as Tesla Motors (# 7 on the ranking) which is revolutionizing the automotive industry (Tesla Motors, 2015) by designing, producing and commercializing electric vehicles in an innovative way. This is reflected in the exponential

growth of the value of its share since it was first publicly traded in 2010. Such share price moved from a launching price of USD 23.83 in May 31st 2010 to USD 218.55 in February 1st 2015 (Yahoo Finance, 2015b). These companies utilize their innovative capabilities to boost their performance.

However, the aforementioned examples are from companies located in developed economies. In order to study innovative capabilities in emerging markets, Colombia, as part of the Latin-American region, may be a good example to analyze. Data from “Asociación Nacional de Cajas de Compensación Familiar (ASOCAJAS)” shows that 463.511 formal enterprises were registered in the country until March 2014 (Asocajas, 2014). Considering the previous numbers, Colombia has approximately an enterprise per each 103 inhabitants. It is important to highlight that ASOCAJAS’s data includes the formally established companies since only the ones that are registered and that comply with the payment of social security for its employees, will appear in their statistics. The Colombian business structure is primarily concentrated in micro-companies with a 69.7% of the total of the business population, followed by small companies with a 14.7%, and by medium and large enterprises with 3.4% and 1.1% respectively (Asocajas, 2014).

Consequently, this Research aims to shed light on to what extent companies from emerging markets are following examples as the ones mentioned and possess both EO and KM as capabilities, to propel their performance. This is a contribution to knowledge that may be useful to the practitioner’s standpoint from this research endeavor. Also, testing and analyzing the EO of such firms may help them understand their entrepreneurial capabilities that can help them compete in today’s globalized world. In addition, from the theoretical standpoint, when studying the EO construct in the academic literature, few studies are found that reflect the reality of firms from Latin-American markets and the development of their entrepreneurial capacities (Chen et al., 2016; Martin & Javalgi, 2016). This Research will also

aim to shed light on to what extent a company's EO and KM show a relation to its Performance, as well as how this interaction behaves, which has rarely been studied (Abu-Bakar, Mahmood, & Ismail, 2014; Li, Liu, Wang, Li, & Guo, 2009). Furthermore, a company's EO has not been studied in the context of Colombian firms, which contributes to the body of knowledge regarding the EO of companies from emerging markets.

Statement of the Problem

The previously presented information leads to question to what extent emerging market companies, in the context of Colombia, possess an EO that academic literature have identified as a mean to improve FP (Covin & Slevin, 1988; Li et al., 2009; Lumpkin & Dess, 2001). In addition, another question arises and it is to what extent emerging market companies, in the context of Colombia, are implementing KM practices that intervene with EO and FP. Possessing an EO and KM practices may allow Colombian companies to leap forward from being local companies to worldwide references. A quantitative, cross-sectional and correlational research (Hernandez-Sampieri, Fernandez-Collado, & Baptista-Lucio, 2010) was conducted to solve the problem, which may provide empirical evidence to answer the questions.

Purpose of the Study

The purpose of this quantitative, cross-sectional and correlational study aimed to identify to what extent a relationship between the KM, EO and a FP is present in emerging market companies, in the context of Colombia. In addition, to validate to what extent EO influences the effect of KM practices on FP in emerging market companies, in the context of Colombia. To achieve this purpose, a quantitative research was implemented, by conducting a survey to the sampled companies and gathering financial information from an electronic database (Emis Benchmark, 2019). A Quantitative Research Method would be more suitable for this research because the KM-EO-FP relationship can be placed in a mature state,

considering the archetypes or methodological fit suggested by Edmondson and Mcmanus (2007). Therefore, the authors argue, for a mature theory a quantitative method is more commonly used, utilizing surveys for data collection, relying on existing constructs and measures and adding a new mechanism to an already supported theory (Edmondson & Mcmanus, 2007). This fit is precisely what the researches intends to carry on with the present research.

The following are the variables that were tested on this research:

- Knowledge Management practices [KM], which will play the role of the Independent variable
- Entrepreneurial Orientation [EO], which will play the role of the Mediating variable
- Firm Performance [FP], which will play the role of the Dependent variable

Significance of the Study

As today, no study has been spotted on academic literature about the influence of EO as a mediating variable in the KM-EO-FP relationship, in the context of Latinamerican companies. In addition, no study has been identified on academic literature about the EO-FP relationship in the context of Colombian firms. This research contributes to the body of knowledge related to the EO construct by adding empirical evidence of its relationship to performance in the context of emerging economies. Also, it contributes to the academic fields of Resource-Based View of the Firm, and Dynamic Capabilities approach. In addition, it tests, first, to what extent Colombian enterprises possess an EO and to what extent such orientation has contributed to their performance. Second, to what extent KM practices has contributed to their performance. Third, how the EO construct mediates in the relationship between KM and FP. This may contribute to companies from emerging markets to tune their corporate strategies to increase their EO and KM or to develop them, to help them to improve their performance.

Nature of the Study

The present research proposes a quantitative research method due to the nature of the data that was collected and the relationship analysis that the researcher wants to test. As mentioned before, qualitative or mixed research methods would not be suitable to reach the research objectives. In addition, this research is based on academic theory that can be classified as a mature theory, which refers to theory that “encompasses precise models, supported by extensive research on a set of related questions in varied settings. Maturity stimulates research that leads to further refinements within a growing body of interrelated theories” (Edmondson & Mcmanus, 2007, p. 1159). When analyzing such theories, the authors stated “a researcher might, for example, test a theory in a new setting, identify or clarify the boundaries of a theory, examine a mediating mechanism, or provide support for or against previous work” (Edmondson & Mcmanus, 2007, p. 1159). All of the above are part of the purpose of this study, as have been stated before.

According to the academic literature, Knowledge, which is the fundamental asset to be managed in KM practices, may be contemplated as part of a Firm resources that generate competitive advantage, considering that it is valuable, rare, hard to imitate and hard to substitute (Barney, 1991). Therefore, the present research contemplates KM practices as a fundamental component among the EO-FP relationship. Considering the variables, the research model was analyzed and tested utilizing the statistical technique known as Structural Equation Modeling (SEM). This technique is appropriate for the model because SEM possesses the capacity to analyze both observed and latent variables (Kline, 2011). Both EO and KM can be considered latent variables, which refers to “hypothetical constructs or factors, which are explanatory variables presumed to reflect a continuum that is not directly observable.” (Kline, 2011, p. 9). In addition, FP, in the form of sales growth, can be considered an observed variable which “used as an indirect measure of a construct is referred

to as an indicator” (Kline, 2011, p. 9). This differentiates this technique from other standard statistical techniques, such as ANOVA and MR, which analyze observed variables only (Kline, 2011). More specifically, the technique used was Partial Least Squares Structural Equation Modeling (PLS-SEM). This technique was chosen considering its feasibility to analyze latent variables and the relatively small sample size, which covariance-based SEM are not suitable for this small sample size. It also was selected because it does not need the data to be normally distributed, although it is recommended that it does not deviate greatly from a normal distribution, in order to avoid problems with the parameters’ statistical significance (Hair, Hult, Ringle, & Sarstedt, 2017; Hair, Risher, Sarstedt, & Ringle, 2019).

Research Questions

Initially, the main questions proposed to be answered by this research were:

1. How is the relationship between EO and FP on Colombian companies?
2. Does KM moderate the relationship between EO and FP?

Nevertheless, considering the new hypotheses that arose during the data analysis process, the following questions surfaced:

3. How is the relationship between KM and FP on Colombian companies?
4. How is the relationship between KM, EO and FP?

Hypothesis

Also, initially, the main hypotheses that the research aimed to support were the following:

1. H_1 : There will be a positive relationship between EO and FP on Colombian companies
2. H_2 : KM practices moderate positively the relationship between EO and FP

However, when the data analysis process was carried out, the relationship between the proposed variables and the proposed moderating effect did not result to be statistically significant and some of the null hypotheses were accepted. Therefore, the researcher

proceeded to validate an alternative model, estimating new relations that were theoretically plausible among the studied variables. As a result, three new hypotheses were tested on the final model, based on Literature Review. In terms of the relationship of KM and EO with FP, it has been found that EO moderates the relationship between Knowledge-based resources and FP (Wiklund & Shepherd, 2003), Knowledge Creation process acts as a mediator on the relationship between EO and FP (Li et al., 2009), EO partially mediates the KM-FP relationship (Abu-Bakar et al., 2014), KM and EO have been encountered to positively influence FP, with KM fully mediating the relationship between EO and FP (Farooq & Vij, 2018), and EO and KM being positively correlated with FP (Hanif, Malik, & Hamid, 2018). Consequently, as a contribution to the existing literature, this dissertation focused on finding the degree that EO-FP positive relationships also applies in the context of Colombian companies, and how KM influences this relationship on such context.

The results of the aforementioned studies showed a gap on the literature: No academic literature was found to date that have studied the mediating role of EO between the KM-FP relationship, which provide theoretical support of this Dissertation's hypotheses. In addition, Baron y Kenny (1986, p. 1176) defined a mediator variable as a variable that "explains how external physical events take on internal psychological significance. Whereas moderator variables specify when certain effects will hold, mediators speak to how or why such effects occur," which is the interest of the researcher to test this effect of EO in the KM-FP relationship. Therefore, the new proposed Hypothesis were:

1. H_1 : There is a significant relationship between KM and FP on Colombian companies.
2. H_2 : There is a significant relationship between EO and FP on Colombian companies.
3. H_3 : EO mediates the relationship between KM and FP on Colombian companies.

Theoretical Framework

The theoretical framework of this research will be focused on the following concepts: Resource-based view of the firm. (Barney, 1991; Wernerfelt, 1984) Dynamic Capability approach (Eisenhardt and Martin, 2000; Teece, Pisano, & Shuen, 1997). Entrepreneurial Orientation and Firm performance. (Covin & Slevin, 1988; Lumpkin & Dess, 1996) Knowledge Management Practices (Grant, 1996; Storey & Kelly, 2002; Sveiby, 1997). The relationship and moderating effect that was proposed initially was represented in Figure 1. However, when the data analysis process was carried out, the relationship between the proposed variables and the proposed moderating effect did not result to be statistically significant and some of the null hypotheses were accepted. Therefore, the researcher proceeded to validate an alternative model, estimating new relations that were theoretically plausible among the studied variables. As a result, three new hypotheses were tested on the final model, based on Literature Review. In terms of the relationship of KM and EO with FP, it has been found that EO moderates the relationship between Knowledge-based resources and FP (Wiklund & Shepherd, 2003), Knowledge Creation process acts as a mediator on the relationship between EO and FP (Li et al., 2009), EO partially mediates the KM-FP relationship (Abu-Bakar et al., 2014), KM and EO have been encountered to positively influence FP, with KM fully mediating the relationship between EO and FP (Farooq & Vij, 2018), and EO and KM being positively correlated with FP (Hanif et al., 2018). Consequently, as a contribution to the existing literature, this dissertation focused on finding the degree that EO-FP positive relationships also applies in the context of Colombian companies, and how KM influences this relationship on such context.

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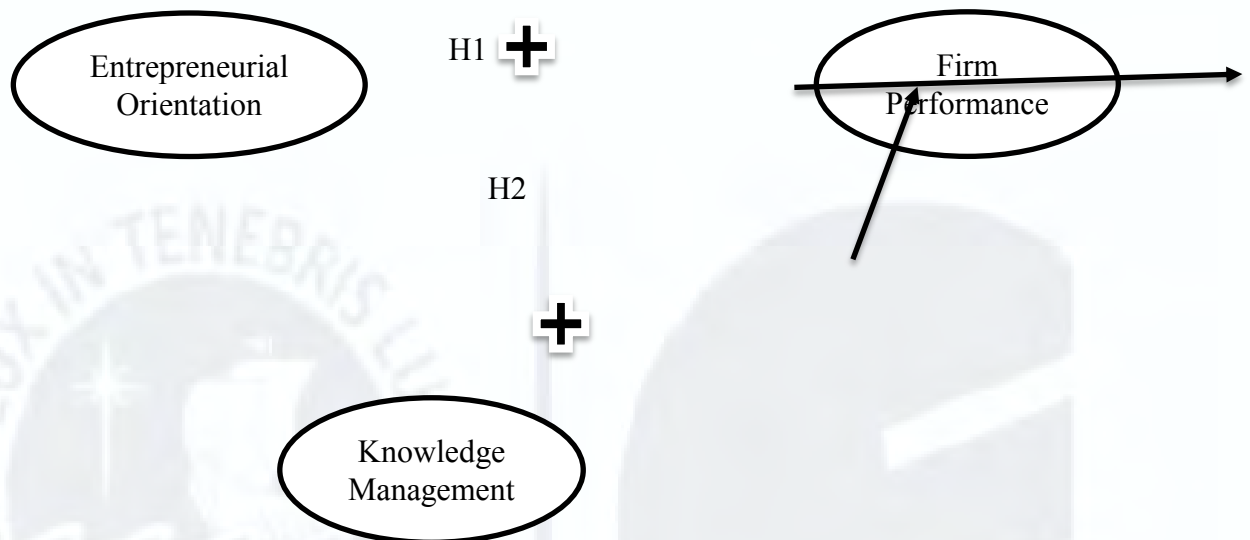


Figure 1. Initial conceptual framework

Regarding the variables analyzed, the EO construct is composed by the following dimensions: “autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness” (Lumpkin & Dess, 1996, p. 149). Wales (2016) noted that while Miller (1983) and Covin and Slevin (1989) proposed a three-dimensional perspective of EO (Risk-taking, innovation and proactiveness), and Lumpkin & Dess (1996) suggested a five-dimensional perspective (Autonomy, risk-taking, innovativeness, proactiveness and competitive aggressiveness), scholars concluded that the two approaches can co-exist, with each one offering distinctive insights. As Covin and Wales (2012) stated:

one might say that the Lumpkin and Dess’s (1996) conceptualization of EO is more domain focused– that is, it specifies where to look for EO – whereas the Miller (1983)

conceptualization of EO is more phenomenon-focused – that is, it specifies what EO looks like. (Covin & Wales 2012, p.681).

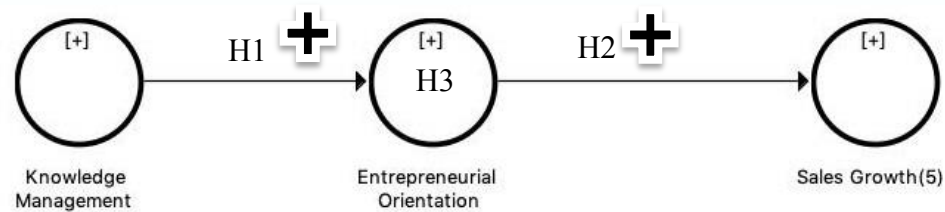


Figure 2. Resulting conceptual framework

One of the controversies that the literature presents regarding this construct is whether it should be measured as a unidimensional or a multidimensional one. Considering this point, Rauch et al. (2009) found 37 studies that measured EO as an unidimensional construct (Arbaugh, Cox, & Camp, 2005; Atuahene-Gima & Ko, 2001; Barrett & Weinstein, 1998; Becherer & Maurer, 1999; Bhuian, Menguc, & Bell, 2005; Caruana, Ewing, & Ramaseshan, 2002; Chadwick, Dwyer, & Barnett, 1999; Covin & Slevin, 1986; Covin & Covin, 1990; Covin, Prescott, & Slevin, 1990; Covin, Slevin, & Schultz, 1994; Covin, Green, & Slevin, 2006; De Clercq, Sapienza, & Crijns, 2005; Dimitratos, Lioukas, & Carter, 2004; George, Wood, & Khan, 2001; Harms & Ehrmann, 2003; Hult, Snow, & Kandemir, 2003; Hult, Hurley, & Knight, 2004; Jantunen, Puumalainen, Saarenketo, & Kyläheiko, 2005; Kemelgor, 2002; Lee, Lee, & Pennings, 2001; Marino, Strandholm, Steensma, & Weaver, 2002; Miller & Toulouse, 1986; Naman & Slevin, 1993; Poon, 2006; Rauch, Frese, Koenig, & Wang, 2006; Slater & Narver, 2000; Smart & Conant, 1994; Stam & Elfring, 2006; Venkatraman, 1989; Walter, Auer, & Ritter, 2006; Zahra, 1991; Wiklund & Shepherd, 2003; Wiklund & Shepherd, 2005; Yoo, 2001; Zahra & Neubaum, 1998; Zahra & Garvis, 2000;) and only 14 of the studies measured the independent dimensions of EO and their relation to performance. (Haiyang, Kwaku, & Yan, 2000; Kreiser, Marino, & Weaver, 2002; Monsen, 2005; Lumpkin & Dess, 2001; Morgan & Strong, 2003; Stetz, Howell, Stewart, Blair, & Fottler, 2000;

Swierczek & Ha, 2003; Richard, Barnett, Dwyer, & Chadwick, 2004; Tan & Tan, 2005; Zahra & Covin, 1993; Zahra, 1996) Furthermore, the authors found that when measuring the effect of each dimensions independently, the differences were not significant:

In the cases where the individual dimensions of EO were included and appropriate statistics exist, we repeated the procedure for innovativeness ($k = 10$), risk taking ($k = 12$), and proactiveness ($k = 13$). Section 2 of Table 2 shows the correlations between each of the dimensions of EO and performance. The highest corrected correlation was .195 for the innovativeness dimension and the lowest was .139 for risk taking. Testing the magnitude of these differences, the z-statistic indicated that these differences were too small to be statistically significant. Their relationships with performance seem to be relatively similar in magnitude. (Rauch et al., 2009, p. 774)

As a result, the present research measured EO as an unidimensional construct and analyzed its compound effect on the dependent variable, not the effect of each dimension independently, as most researchers on the subject have chosen to do. (Rauch, Wiklund, Lumpkin, & Frese, 2009).

Considering KM, the operationalization proposed by Lee, Lee and Kang (2005) was selected for this research. The authors defined this construct to be composed by Knowledge Utilization, Knowledge Accumulation, Knowledge internalization by education opportunity and organizational learning, Knowledge internalization by task-related knowledge, Knowledge sharing, Knowledge creation by task understandings and Knowledge creation by information understandings (Lee, Lee, & Kang, 2005). However, for this dissertation only Knowledge internalization, Knowledge sharing, Knowledge creation by task understandings and Knowledge creation by information understandings, was considered. This choice was based on the definition of KM that has been taken as a reference for this research, which considers it to be composed by knowledge creation, knowledge sharing and the measurement

and accumulation of knowledge related assets (Turner & Minonne, 2010). The aforementioned subconstructs were selected from the instrument, as the ones that better measure the components of this definition (knowledge creation, knowledge sharing and the measurement and accumulation of knowledge related assets). Concerning FP, Lumpkin & Dess (1996) suggested that it may be measured by concepts such as Sales Growth, Market Share, Profitability, Overall Performance or Stakeholder satisfaction. For the purpose of the present research, Sales Growth was utilized to measure Firm Performance since Market Share and Profitability were also tested, but they did not yield significant results.

Based on the studies conducted by several authors (Choi & Williams, 2016; Covin & Slevin, 1988; Li et al., 2009; Lumpkin & Dess, 1996; Rauch, Wiklund, Lumpkin, & Frese, 2009; Real, Roldán, & Leal, 2014) the researcher expected a positive relationship between EO and FP to take place in the context of Colombian companies. In addition, the researcher would like to analyze and test KM as an element that may modify such relationship, which have not been broadly studied in academic literature (Abu-Bakar et al., 2014; Farooq & Vij, 2018; Li et al., 2009; Wiklund & Shepherd, 2003). Also, the researcher would like to propose a new relationship among these three variables (KM->EO->FP) has not been studied yet. In addition, the researcher has not been able to find this variable to have been studied as part of the EO-FP relationship in the context of Latinamerican companies.

Definitions

An important definition for the purpose of this research is EO which is defined as “the processes, practices, and decision-making activities that lead to new entry” (Lumpkin & Dess, 1996.) Although the EO construct may be applied to individuals (Lumpkin & Dess, 1996), for the purpose of this research the focus was kept at the Firm level (Casillas, Moreno, & Barbero, 2011; Covin & Slevin, 1988; Li et al., 2009; Lumpkin & Dess, 2001; Moreno & Casillas, 2008). KM is defined as “generally concerned with how organizations create

(learning processes), disseminate (knowledge sharing), and measure (intellectual capital measurement) knowledge related assets” (Argote 1999, Edvinsson and Malone 1997, Huber 1991, Sveiby 1997, Sveiby and Risling 1986; cited by Turner & Minonne, 2010).

In addition to the definitions mentioned before, the following ones are complementary concepts relevant for this Dissertation. According to Wernerfelt (1984), the Resource-Based View of the Firm (RBV) suggests that a firm’s competitive advantage comes from its capability to organize and leverage a suitable combination of resources, both of tangible and intangible type. Sustainable Competitive Advantage (SCA) refers to the ability to maintain the competitive advantages a company has developed, by keeping resources that are valuable, rare, hard to imitate, and hard to substitute (Barney, 1991). Dynamic Capabilities refer to “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (Teece et al., 1997. p 516).

Assumptions

For this research, it is assumed that the sampled companies have developed any degree of EO, even without being aware of it. In addition, it is assumed that at least part of the sample implements KM practices, even without being aware of it. Also, the researcher assumes that every person that responded the questionnaires answered honestly and objectively.

Limitations

The limitations presented in the following research are related to the access to information from Colombian companies, which depends on the rate of responsiveness, the quality of the information provided by them and the transparency in sharing sensitive information about key elements of their competitive advantage. In addition, being a cross sectional study may only show the companies’ state at a very specific period and not its evolution. The fact that the survey created to collect data was answered by a single respondent

within the company surveyed, presents another limitation to this research. Furthermore, the sample was not determined by a random method, since the researcher can only work with those companies willing to answer the given survey and that are part of EMIS BENCHMARK (2019), INEXMODA (2019) and PROANTIOQUIA (2019) databases, which have kindly accepted to distribute the questioner to conduct the present research. Finally, the relative small sample of 90 observations utilized to conduct the statistical analysis may be considered another limitation of this research, although it still presents a statistical power of 80% (Hair et al., 2017).

Delimitations

The present research study was conducted by surveying Colombian companies, located in Colombia, South America. The companies to be part of the sample were located in the city of Medellin, Colombia. This sample was selected considering the resources available to the researcher, his geographical location and that of the institution that were able to collaborate in the process of data collection.

Summary

The purpose of this quantitative, cross-sectional and correlational study aimed to identify to what extent there is a relationship between the KM, EO and FP in the context of Colombian companies. The following are the variables that were tested on this research: Knowledge Management [KM] practices as independent variable, Entrepreneurial Orientation [EO] as mediating variable and Firm Performance [FP] as dependent variable. As today, no study has been spotted on academic literature about the influence of KM in the relationship between EO and FP, in the context of Latinamerican companies. In addition, no study has been found on academic literature about the KM-EO-FP relationship in the context of in the context of Colombian companies. This research contributes to the body of knowledge related to the EO construct by adding empirical evidence of its relationship to FP in the context of

emerging economies. Also, it will contribute to the academic fields of Resource-based view of the Firm, and Dynamic Capabilities approach. In addition, it tested to what extent KM influences the relationship between EO and FP. Furthermore, the present research proposed a quantitative research method due to the nature of the data that was collected and the relationship analysis that the researcher wanted to test. Qualitative or mixed research methods were not suitable to reach the research objectives. Considering these variables, the research model was analyzed and tested utilizing the statistical technique known as Structural Equation Modeling, specifically PLS-SEM.



Chapter 2: Literature Review

Considering the stated Theoretical Framework, the following literature review analyzed theories that attempt to explain how companies can generate an orientation that leads them to improve their overall performance (in terms of sales growth). Also, how to create and manage internal resources and capabilities that contribute to the improvement of FP. In addition, theories focused on the creation and management of Knowledge, as an internal resource. First, the literature regarding the Resource-Based View of the Firm were analyzed, along with the Dynamic Capabilities theory, then the EO-FP relationship was discussed, and finally, KM practices and its impact on innovation were revised. Regarding the main concept analyzed on this research, this Literature Review was conducted using a systematic approach, with the following criteria:

Table 1

Literature Review Search Criteria

Data base	Web of Science
Subject	(Entrepreneurial Orientation) AND (Performance) AND (Knowledge Management)
Time	All years
Document type	All
Index	SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC.
Subject Areas:	All
Languages:	All
Results	336

Note: Information obtained from Web of Science. (2019) Web of Science. Retrieved from <https://login.webofknowledge.com/>

From the 336 articles found, 319 were eliminated and 19 were selected as they met the following criteria: They were considered seminal papers from the EO-FP relationship, they presented a Meta-analysis of the construct, or they included either mediator or moderator variables to the EO-FP relationship that contributed to the proposed mediator effect of this research. The Literature Review Map can be found on Appendix A.

Resource-Based View of the Firm

The Resource-Based view is relevant for this Literature Review, as suggested by Wales (2016), because it focuses on the internal resources a company possesses to generate competitive advantage. Since innovation is considered an internal resources of a Firm (Penrose, 1959), it must be considered for the analysis proposed on this research. The first approach found that is related with the Resource-based view was the work of Edith Penrose (1959). This author concentrated in the internal resources a firm possesses such as “knowledge, added value, innovation” that could create competitive advantage. Penrose (1959) also highlighted that executives play a crucial role in the development of companies. This leads to conclude that the ability a company should generate competitive advantage depends on its internal resources and its manager’s performance. Then, Wernerfelt (1984) also attempted to analyze a company from the resources it possesses that contribute to generate competitive advantage. According to Wernerfelt (1984), the Resource-Based View of the Firm (RBV) suggests that a firm’s competitive advantage comes from its capability to organize and leverage a suitable combination of resources, both of tangible and intangible type. Based on RBV, one can infer that the source of competitive advantage is closely tied with the internal capacities, including innovation capability, an organization possesses and has managed to make it function together. Wernerfelt also defined a resource as “anything which could be thought of as a strength or weakness of a given firm”. (Wernerfelt, 1984. p 172)

A concept that is relevant on the analysis of the RBV is the Sustainable Competitive Advantage (SCA), which was studied by Barney (1991). SCA refers to the ability to maintain the competitive advantages a company has developed, by keeping resources that are valuable, rare, hard to imitate, and hard to substitute (Barney, 1991). Lockett, Thompson, and Morgenstern (2009) stated that the RBV is an expression of views about how companies in fact operate. The authors highlighted three elements that are important on the RBV: resource

functionality, resource recombination, and resource creation and decay (Lockett et al., 2009). Camisón and Villar-López (2014) affirmed that RBV utilizes the internal features of companies to explain their variability in strategy and performance. The authors stated that, as claimed by the major assumption of RBV, only firms with certain resources and capabilities with special characteristics will gain competitive advantages and, therefore, achieve superior performance (Camisón & Villar-López, 2014). Nevertheless Teece, Pisano, and Shuen (1997) affirmed that the simple fact of stockpiling valuable resources is not sufficient to maintain a notable competitive advantage.

Dynamic Capabilities Theory

Dynamic Capabilities's theory is relevant for this Literature Review, as suggested by Wales (2016), because some capabilities can increase the presence of EO on a company. Revisiting Barney (1991), the author agrees that the dynamic capability theory concurs with the RBV of the firm. In fact, dynamic capabilities theory should be considered a complement to the RBV. Teece et al. (1997) argued that the strategic management theory of their time, especially the RBV, needed to be expanded with a new approach that could explain the international competitive fights industries such as high-tech were holding. In addition, how these companies were acquiring their competitive advantage, or, as Barney (1991) called it, SCA. The authors suggested this new approach to be denominated as "Dynamic Capabilities". The authors defined this approach as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece et al., 1997. p 516). They used to the aforementioned term explaining that 'Dynamic' refers to "the capacity to renew competences so as to achieve congruence with the changing business environment" (Teece et al., 1997. p 515). Also, the authors defined 'capabilities' as that "emphasizes the key role of strategic management in appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional

competences to match the requirements of a changing environment” (Teece et al., 1997. p 515). Teece et al. (1997) stated that the purpose of the Dynamic Capability approach aims to supply a comprehensive framework that can integrate existing theory and help the advisory process.

However, Eisenhardt and Martin (2000) debated the approach suggested by Teece et al. (1997) about the Dynamic Capabilities with three statements. Firstly, the authors noted that this approach needs the participation of specific processes such as product development, which generates value for a company that competes in dynamic arenas. Secondly, they noticed that this type of capabilities is homogeneous and easy to substitute on firms that possess them. Thirdly, the authors encountered that Dynamic Capabilities can take different forms, according to market dynamics. Ambrosini and Bowman (2009), stated that the Dynamic Capability approach definition that most scholars studying the concept agree upon is a process within an organization that intends to transform a given resource.

Entrepreneurial Orientation and Firm Performance

The Dynamic Capability theory is closely related to the Entrepreneurial Orientation (EO) and Firm Performance (FP) construct, as some firm resources and capabilities can translate into greater EO and/or improve EO–FP relationships. In addition, EO can also augment firm resources and capabilities (Wales, 2016). The EO construct owes its conception to the work of Miller (1983) who studied the concept of Corporate Entrepreneurship and its importance for a Corporation’s strategy. However, he did not call it Entrepreneurial Orientation (EO) (Miller, 2011). The author defined the nascent construct as the degree to which the high-level managers are willing to take risks connected to their business practices (the risk-taking dimension), to support change and innovation to gain a competitive edge in their market (the innovation dimension), and to compete proactively and fiercely with other companies (the proactiveness dimension) (Miller, 1983). Subsequently,

Covin and Slevin (1988) studied the relationship among EO present in Top Management and the organizational performance of a firm, and whether the moderating effect of organization structure exists on the aforementioned relationship. The authors considered the EO construct to be composed by three dimensions as well: Risk-taking, Innovation and Proactiveness, based on the work of Miller (1983). The authors proposed the following hypothesis:

“H1: In organically-structured firms, increases in top management's entrepreneurial orientation will positively influence performance; in mechanistically- structured firms, increases in top management's entrepreneurial orientation will negatively influence performance.... H2: Firms in which the organization structure is congruent with the management (i.e. effective-entrepreneurial and efficient-bureaucratic firms) will perform significantly better than firms in which these variables are incongruent (i.e. pseudo-entrepreneurial and unstructured-unadventurous firms)” (J. G. Covin & Slevin, 1988, pp. 220 & 223).

Furthermore, Covin and Slevin (1988) selected 507 companies from the United States as their sample, and surveyed them using a scaled they previously developed and tested (J. G. Covin & Slevin, 1986), to measure what they called their Entrepreneurial Style as the independent variable (J. G. Covin & Slevin, 1988). They also studied the construct of Organization Structure as a moderating variable, measuring it using an instrument developed by Khandwalla (1977). Finally, they measured Organizational Performance as the dependent variable, using a scale developed by Gupta and Govindarajan (1982). The method utilized to analyze the Hypothesis 1 was a moderated regression analysis. To analyze Hypothesis 2, the authors utilized t-test to detect differences among two selected subgroups (Covin & Slevin, 1988). The authors classified companies as organically-structured and mechanistically-structured in terms of the organizational structure they presented. In addition, they classified companies as Entrepreneurial and Conservative in terms of their management style. When

applying a matrix approach, Covin and Slevin (1988) suggested four types of companies: Pseudo entrepreneurial firms (mechanistically-structured firms with an entrepreneurial management style), Efficient bureaucratic firms (mechanistically-structured firms with a conservative management style), Effective entrepreneurial firms (organically-structured firms with an entrepreneurial management style), and Unstructured unadventurous firms (organically-structured firms with a conservative management style).

Regarding the results encountered, Covin and Slevin (1988) found that the EO of Top Management and the Organizational Structure presented a positive relation with FP. They encountered that Organically-structured entrepreneurial companies and mechanistically-structured conservative ones presented the best performance. Organically-structured companies facilitate entrepreneurial endeavors and allow the organization to react quickly to strategies implemented by competitors. Mechanistically-structured companies permit to carry out repetitive activities and deliver predictability, stability, and consistency to managers that require such structures to function (J. G. Covin & Slevin, 1988). The authors additionally concluded that performing entrepreneurial actions should not be seen as the only answer for ameliorating organizational performance. Instead, a strong entrepreneurial orientation, as any other managerial orientation, is only achieved when other components in the organizational system offer support (Covin & Slevin, 1988). The authors also stated that their study presented these limitations: the reliability of the entrepreneurial style and organization structure data is presumed to be high due to the fact that it was collected from one respondent per organization. To have several respondents may improve such reliability (J. G. Covin & Slevin, 1988). In addition, the data collected was cross-sectional, which prevents causal linkages between the variables to be formed. Longitudinal studies should be conducted in order to verify that causal relationships exist (J. G. Covin & Slevin, 1988).

Then, Lumpkin and Dess (1996) studied the EO construct and suggested an alternative outline when researching EO and FP. They also argued that the aforementioned dimensions do not covary but present an independent behavior, taking into account the external and internal context, which implies that the EO construct and its relationship with FP may be affected by the environment a company faces (Lumpkin & Dess, 1996). In addition, the authors emphasized that the EO construct is susceptible to the type of subject that is being analyzed. The same results cannot be expected when analyzing an individual, a Small or Medium company or a Multinational enterprise regarding such construct. In addition to the three dimensions proposed by Miller (1983) and Covin and Slevin (1988), Lumpkin and Dess (1996) added two more to propose five dimensions that compose the EO construct: “autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness” (Lumpkin & Dess, 1996, p. 149). *Autonomy* is defined as “the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion” (Lumpkin & Dess, 1996, p. 140). *Innovativeness* defined as “a firm's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes” (Lumpkin & Dess, 1996, p. 142). *Risk-taking* can be defined as “the degree to which managers are willing to make large and risky resource commitments—i.e., those which have a reasonable chance of costly failures” (Miller & Friesen, 1978, p. 923; cited by Lumpkin & Dess, 1996, p. 144). *Proactiveness* can be defined as “acting in anticipation of future problems, needs, or changes” (Webster's Ninth New Collegiate Dictionary, 1991, p. 937; cited by Lumpkin & Dess, 1996, p. 146). *Competitive Aggressiveness* can be defined as “a firm's propensity to directly and intensely challenge its competitors to achieve entry or improve position, that is, to outperform industry rivals in the marketplace” (Lumpkin & Dess, 1996, p. 148). Wales (2016) noted that while Miller (1983) and Covin and Slevin (1989) proposed a three-dimensional perspective of EO

(Risk-taking, innovation and proactiveness), and Lumpkin & Dess (1996) suggested a five-dimensional perspective (Autonomy, risk-taking, innovativeness, proactiveness and competitive aggressiveness), scholars concluded that the two approaches can co-exist, with each one offering distinctive insights. As Covin and Wales (2012) stated:

one might say that the Lumpkin and Dess's (1996) conceptualization of EO is more domain focused— that is, it specifies where to look for EO – whereas the Miller (1983) conceptualization of EO is more phenomenon-focused – that is, it specifies what EO looks like. (Covin & Wales 2012, p.681)

Moreover, Lumpkin and Dess (1996) proposed a conceptual framework of EO which is the theoretical base for this research because it has been an widely accepted extension of the originally proposed framework from Covin and Slevin (1988), which only included three dimensions (Rauch et al., 2009; Wales, 2016). In such conceptual framework, EO is the independent variable and FP the dependent one. Regarding FP, the authors suggested that it may be measured by concepts such as Sales Growth, Market Share, Profitability, Overall Performance or Stakeholder satisfaction. For this research, Sales Growth will be utilized to measure FP. In addition, the authors proposed two moderating factors that may influence the relationship between EO and FP which are Environmental and Organizational Factors (Lumpkin & Dess, 1996).

Subsequently, Lumpkin and Dess (2001) conducted an empirical study to test two of the five original EO dimensions proposed by Lumpkin and Dess (1996): Proactiveness and Competitive Aggressiveness. The authors argued that although these dimensions are related to themselves and to FP, their functionality is different according to the environment in which a company's strategy is made. In addition, the authors tested the moderating effect that the stage of an industry's life cycle presented on the relationship concerning competitive aggressiveness and FP. Lumpkin and Dess (2001) found that competitive aggressiveness and

proactiveness are in fact different dimensions of EO. Proactiveness is defined as “a firm’s response to marketplace opportunities. A strong proactive tendency gives a firm the ability to anticipate change or needs in the marketplace and be among the first to act on them” (Lumpkin & Dess, 2001, p. 445). Competitive aggressiveness, on the other hand is defined as “a firm’s response to competitive threats. A strong competitively aggressive stance gives a firm the ability to be a decisive player in a field of rivals and to act forcefully to secure or improve its position” (Lumpkin & Dess, 2001, p. 445). The data collected by the authors showed that proactiveness and competitive aggressiveness contribute differently to FP. Proactiveness was positively related to the three measures studied of performance. Competitive aggressiveness presented a negative relationship to sales growth and a weak relationship to profitability and return on sales, nonetheless, both were not statistically significant (Lumpkin & Dess, 2001). Lumpkin and Dess (2001) also encountered that the moderating role of stage of industry life cycle presented an essential difference comparing proactiveness and competitive aggressiveness. Proactiveness showed to be a better strategy to the introduction and growth stage of an industry’s life cycle. However, this dimensions showed to be less effective as strategy in more mature industries (Lumpkin & Dess, 2001). A competitively aggressive strategy, however, showed the contrary influence on performance considering the industry life cycle stage. In mature industries, competitive aggressiveness presented better results when looking to keep a solid position compared to its competitors. Conversely, in initial industry stages, aggressive actions showed to be less effective to achieve high performance (Lumpkin & Dess, 2001). The authors also found that Proactiveness presented the best results in a dynamic environment. But proactiveness was also found to be positively related to performance in hostile environments. Regarding competitive aggressiveness, the authors stated that more research is needed to be conclusive.

In terms of national culture and EO, Lee and Peterson (2000) studied the relationship between national culture, EO and the moderating effect of economic, political/legal, and social factors on such relationship. The authors encountered that a culture that “is low on power distance, weak in uncertainty avoidance, masculine in nature, individualistic, achievement oriented, and universalistic will engender a strong EO” (Lee & Peterson, 2000, p. 415).

Subsequently, Rauch, Wiklund, Lumpkin, and Frese (2009) conducted a meta-analysis regarding the EO-FP relationship and evaluated potential moderating variables influencing such relationship. The authors considered 53 samples from 51 studies that included 14,259 companies. The authors found that EO presents a positive influence on FP with a statistical effect relatively large. Furthermore, the authors found a positive EO-FP relationship utilizing different measures of EO as well as both financial and not financial measures of FP. The authors also found that culture may not be an influential moderator in the EO-FP relationship, although they suggested that more studies including this variable should be conducted. In addition, the authors found studies that measured EO as a unidimensional construct and other that measured it as a multidimensional one (Rauch et al., 2009). However, the authors stated that most researches have measured EO’s dimensions as a unidimensional construct. 37 studies analyzed by the authors measured EO as an unidimensional construct and only 14 of the studies did so as an multidimensional one (Rauch et al., 2009). In addition, the authors stated:

The salient dimensions of EO usually show high intercorrelations with each other, ranging, for example, from $r = .39$ to $r = .75$ (Bhuiyan, Menguc, & Bell, 2005; Richard, Barnett, Dwyer, & Chadwick, 2004; Stetz, Howell, Stewart, Blair, & Fottler, 2000; Tan & Tan, 2005). Therefore, most studies combined these dimension into one single factor (e.g., Covin, Slevin, & Schultz, 2004; Lee, Lee, & Pennings, 2001;

Naman & Slevin, 1993; Walter, Auer, & Ritter, 2006; Wiklund & Shepherd, 2003).
(Rauch et al., 2009)

Furthermore, the authors found that when measuring the effect of each dimensions independently, the differences were not significant:

In the cases where the individual dimensions of EO were included and appropriate statistics exist, we repeated the procedure for innovativeness ($k = 10$), risk taking ($k = 12$), and proactiveness ($k = 13$). Section 2 of Table 2 shows the correlations between each of the dimensions of EO and performance. The highest corrected correlation was .195 for the innovativeness dimension and the lowest was .139 for risk taking.

Testing the magnitude of these differences, the z-statistic indicated that these differences were too small to be statistically significant. Their relationships with performance seem to be relatively similar in magnitude. (Rauch et al., 2009, p. 774)

Regarding Covin and Lumpkin (2011), the authors coedited a special issue concentrated on the EO construct, which was published by the Journal Entrepreneurship: Theory and Practice. This journal has been a leading manuscript on the academic field of Entrepreneurship for more than a decade (Scopus, 2019a). The authors discussed that about the importance of classifying EO as a Disposition or as a Behavior. They argued that conceptualizing EO as a disposition may present the disadvantage of fading its boundaries with other entrepreneurial elements, such as entrepreneurial culture, climate, mindset or logic (J. G. Covin & Lumpkin, 2011). In addition, the authors argue that companies show their entrepreneurial characteristics with the way they behave, with their actions, which places behavior as the cornerstone of an entrepreneurial process in a firm, in accordance to what Covin and Slevin (1991) stated on their manuscript. Covin and Lumpkin (2011) stated that there are three reasons that justify the relevance of EO in the company-level entrepreneurship academic field. First, EO has demonstrated to be adequate to explain the capabilities that

some companies show, which have allowed them to renew themselves and create novel ways to grow, while others do not. In times where competitive advantages are not possible to sustain for extended periods of time, EO acquires much relevance in today's firms (J. G. Covin & Lumpkin, 2011). Second, EO is a continuous variable that allows scholars to analyze the level of entrepreneurship shown by companies, relying on a common metric or metrics to assess such entrepreneurship levels in a comparable way (J. G. Covin & Lumpkin, 2011). Third, EO has gained a unique place as a concept in the company-level entrepreneurship academic field. This is due to the fact that "the construct EO is represented by behaviors that are shared by any firm that passes the theoretical litmus test of exhibiting entrepreneurship. What this means in a practical sense is important to define and is the focus of the following discussion" (J. G. Covin & Lumpkin, 2011, p. 862).

Concerning Miller (2011), the author revisited his 1983 article to clarify the purpose of it and to analyze the evolution of the EO construct, after almost 30 years of its conception. The author explained how he created the famous scale to measure the three-dimension EO (Risk-taking, innovation and proactiveness):

Entrepreneurship was assessed according to what have become "the usual suspects"—or at least a subset of them: three variables each consisting of multiple subscales for risk taking, innovation, and proactiveness (that last word is still not in my dictionary!). These variables were extracted from a review of the work on strategy making process that I had done for my doctoral dissertation "Strategy Making in Context: Ten Empirical Archetypes" (1976). They were a subset of the variables used to describe strategy making—variables that were, in turn, derived from the work of Khandwalla (1977), Mintzberg (1973), Collins and Moore (1970), Normann (1971), Shapero (1975), and others. These also were the variables I thought best reflected the ideas of some entrepreneurship classics of the day (cf. Cole, 1946;

Hartman, 1959; Knight, 1921; Redlich, 1949; Schumpeter, 1934; Shapero) (Miller, 2011, p. 874).

Also, Miller (2011) highlighted that Entrepreneurship literature overlooked what he considers the main contribution of his 1983 article: “a demonstration that the nature, and especially the correlates of entrepreneurship—the aggregate index now, not simply the components—would vary depending on the organizational context in which it occurred” (Miller, 2011, p. 875). Therefore, it is crucial to consider that EO may manifest differently in a small firm from a multinational firm. He utilized the terms “small simple firm” a “large planning bureaucracy” and an “organic firm” to differentiate them, based on the work of Mintzberg’s (1979; cited by Miller, 2011) structural types and his strategy-making modes (Mintzberg, 1973; cited by Miller, 2011). Also, Miller (2011) has called attention to the fact that EO research has been careful to differentiate Entrepreneurship from EO, by distinguishing EO as a process of realizing what Lumpkin and Dess (1996) called “new entry”, a behavior, a way to create new entry through a new company, a new business model or technology, or a new place to enter. Entrepreneurship is what the Entrepreneur may wish to accomplish whereas EO is how he/she accomplishes it (Miller, 2011).

In addition, Wales, Monsen, and McKelvie (2011) studied how EO has shown itself inside companies. The authors argue that EO capacity to influence a company’s performance may depend on the different ways this construct is manifested throughout such company, at its different areas, levels and stages of development (Wales et al., 2011). In addition, they argued that scholars have assumed EO to permeate firms in a homogeneous way, without sufficient theoretical backing to this assumption. “We question this basic supposition and claim that EO may in fact be exhibited in different manners and to different degrees across an organization” (Wales et al., 2011). As a result, Wales et al. (2011) proposed three dimensions regarding how and why EO can permeate companies, as well as the way it

distributes heterogeneously: Vertically (across organizational levels and managerial groups), Horizontally (across organizational divisions and functional areas) and throughout a Time lapse (across time and state of development) (Wales et al., 2011). Also, the authors proposed three models to explain how firms acquire and sustain competitive advantage: Continuous Morphing Model, where EO is relatively invariable, Ambidextrous Model, where EO varies either horizontally, vertically or both, and Cyclical Wave Model, where EO varies through a time lapse (Wales et al., 2011).

Also, Real, Roldán, and Leal (2014) studied the mediating effect that organizational learning presents in the relationship among EO and learning orientation in FP. In addition, the authors also studied the moderating effect of organizational size in the relationships. The author encountered that EO exerts a significant effect on FP. However, when organizational learning is introduced, its direct effect decreases, confirming that organizational learning in fact presents a mediating effect in the relationship between learning orientation and FP. In addition, learning orientation presents a significant direct effect on FP, but when organizational learning is introduced, its direct effect ceases to be significant, confirming the mediating role of organizational learning on such relationship as well (Real et al., 2014). Finally, the authors found that organizational size (in this case large firms) seems to augment the positive influence of EO on organizational learning as a mediator to FP. The same was found regarding learning orientation (in this case SMEs). However, the influence of organizational learning on FP is the same for both types of organizational sizes (Real et al., 2014).

The original authors Covin and Miller (2014) studied the evolution of the EO construct into the International Entrepreneurial Orientation (IEO) as scholars researching International Entrepreneurship adopted the concept into their field of study. The authors found that IEO inclines to the Miller, 1983/Covin & Slevin, 1989 approach of EO. In addition, the

studies conducted regarding IEO seem to analyze the EO construct in an international context, but do not treat IEO as a separate construct to EO (J. G. Covin & Miller, 2014). Also, the authors found two definitions of IEO, which relate to the two approaches that the construct present (Miller, 1983/Covin & Slevin, 1989 or Lumpkin & Dess, 1996) which are:

According to Freeman and Cavusgil (2007, p. 3), “‘International entrepreneurial orientation’ refers to the behavior elements of a global orientation and captures top management’s propensity for risk taking, innovativeness, and proactiveness.” Thus, Freeman and Cavusgil implicitly adopt the three-element conceptualization of EO, as originally proposed by Miller (1983), in their definition of IEO. By contrast, Sundqvist, Kylaheiko, and Kuivalainen (2012, p. 205) define IEO as “a set of behaviors associated with the potential creation of value, which manifest themselves as proactive and innovative methods, risk-taking activity, autonomous actions, and an emphasis on outperforming rivals, all variously aimed at discovering, enacting, evaluating, and exploiting opportunities across national borders.” This definition of IEO is consistent with the five-dimension conceptualization of EO originally proposed by Lumpkin and Dess (1996). To date, as reviewed in a later section, empirical IEO research has largely employed IEO measures that assess only the three elements of risk taking, innovativeness, and proactiveness.

Regarding complementary effects on the EO-FP relationship, Choi and Williams (2016) studied the relationship between EO and FP and the mediating role that firm’s technology action (TA) and marketing action (MA) may present. Also, they argued that such mediating effects will vary depending on the industry type. The authors found that TA and MA in fact mediate the relationship among EO and FP. In addition, they found that TA has a higher mediating effect on the relationship among EO and FP than MA in manufacturing companies (Choi & Williams, 2016). Finally, the authors encountered that MA presents a

higher mediating influence on the relationship among EO and FP than TA in service industries.

Martens, Lacerda, Belfort, & Freitas (2016) conducted an extended Literature Review about the last 30 years of research regarding the EO-FP relationship. The authors suggested that the main topics to consider for further research on this topic are “growth, learning, knowledge, resources, and capabilities” (Martens et al., 2016, p. 577). In addition, in terms of contexts of research on EO, the authors suggested to work on more research regarding “family firms, non-profit organizations, social contexts, the public sector, university, spin-off, firms in emerging and developing economies” (Martens et al., 2016, p. 577). As a result, this Dissertation can be regarded to be in line with such suggestions and therefore will be a contribution to the further development of the EO-FP relationship, as it included the Knowledge Management variable and was developed in an Emerging Economy.

Martin and Javalgi (2016) studied the moderating role of Competitive Intensity (CI) on the relationship between Entrepreneurial Orientation (EO), Market Capabilities (MC) and International New Ventures (INV) Performance on Latinamerican firms. The authors surveyed 260 Mexican companies that classified as INV. Martin and Javalgi (2016) found a positive and significant relationship among EO and MC, as well as a significant relationship between MC and EO with INV Performance. Furthermore, CI was found to have a moderating effect among EO and MC, but not between EO and INV Performance. As a result, the authors concluded that CI in fact propels the effect that EO and MC presents on INV Performance, which shows that EO plays a crucial role in INV in improving MC when CI is high. However, when CI is low, EO and MC lose their relevance in INV. In addition, INV Performance is higher when EO and MC are present on these ventures than when only EO is present (Martin & Javalgi, 2016). Therefore, it is important to highlight that, according to the authors findings, high levels of EO and MC are not always desirable; they are only relevant to

improve INV Performance when high levels of CI are present on a market. When a market does not present intensified competition, it may be better to allocate resources elsewhere within the company.

Irwin et al. (2018) studied the relationship between Human Resources Outsourcing (HRO), Human Capital (HC), Entrepreneurial Orientation (EO) and Firm Performance (FP) in Small and Medium Enterprises (SMEs). The authors surveyed 100 SMEs from the United States. Irwin et al. (2018) found a positive and significant relationship among EO and FP, as well as a partial mediating effect of HRO on the relationship between EO and FP. Also, the authors found a moderating effect of HC in the EO and FP relationship. As a result, Irwin et al. (2018) concluded that EO indeed increases SMEs performance and HRO practices mediate this relationship but only partially, which may mean that SMEs are not willing to outsource all HR practices but only those that do not represent great harm, given a possible opportunistic behavior from the Outsourcing provider. In addition, HC elements that generate a competitive advantage for the SME should be administrated internally and HC in fact propels the EO-FP relationship, which shows that HC that generate a competitive advantage for the SME also increases de positive effect that EO presents on its performance (Irwin et al., 2018)

Rodrigo-Alarcón, García-Villaverde, Ruiz-Ortega, & Parra-Requena (2018) studied the relationship among Social Capital (SC), Dynamic Capabilities (DC) and Entrepreneurial Orientation (EO) on Agri-food firms. The authors surveyed 292 Spanish companies. Rodrigo-Alarcón et al. (2018) analyzed SC as a multidimensional construct composed by Structural, Relational and Cognitive SC but DC and EO were analyzed as unidimensional constructs. As a result, the authors found that both Relational and Cognitive SC present a positive and significant effect on EO, but not Structural SC. Also, the Dimensions of SC present a positive and significant effect on DC and DC presents a positive and significant effect on EO. In

addition, the authors found that DC presents a total mediation effect on the relationship among SC dimensions and EO. Therefore, Alarcón et al. (2018) concluded that it is necessary to develop SC to generate EO and that SC enables the sharing of resources that allow DC to be adapted to changing environments, which in turn increases a company's EO. Nevertheless, they authors suggest that companies should avoid to keep an “an imitator, reactive and risk-averse behavior” (Rodrigo-Alarcón et al., 2018, p. 205).

It is important to consider that EO must be regarded as a crucial component in the strategy of the firm that is studied (Wales, 2016). The indicator of a company's EO can be influenced by its employees, even at low levels, the company's external environment in terms of position, the employee's roles and the functional area's objective, among others (Wales, 2016). EO should be identified as a “strategic dimension” that companies recurrently present in a given period of time, as a conduct (J. G. Covin & Slevin, 1991). In addition, in order for a company to show an EO, it ought to combine this orientation with managerial support to participate in activities that involve uncertainty in a given period of time (J. G. Covin & Lumpkin, 2011). Also, EO is not an orientation that remains constant over time; companies that possess it may show phases of high EO and phases of low EO, based on their strategic reactions to environmental conditions (Wales, Monsen, & McKelvie, 2011). Wales (2016) also revised the state of the art regarding the EO construct and compiled a path for future research on the matter, based on the suggestions of key authors. One recommendation they found was the necessity to explore more moderating variables that can help explain variance in the EO-FP relationship. Wales (2016) noted that while Miller (1983) and Covin and Slevin (1989) proposed a three-dimensional perspective of EO (Risk-taking, innovation and proactiveness), and Lumpkin & Dess (1996) suggested a five-dimensional perspective (Autonomy, risk-taking, innovativeness, proactiveness and competitive aggressiveness),

scholars concluded that the two approaches can co-exist, with each one offering distinctive insights. As Covin and Wales (2012) stated:

one might say that the Lumpkin and Dess's (1996) conceptualization of EO is more domain focused— that is, it specifies where to look for EO – whereas the Miller (1983) conceptualization of EO is more phenomenon-focused – that is, it specifies what EO looks like. (Covin & Wales 2012, p.681)

Knowledge Management Practices

In terms of whether Knowledge Management (KM) contributes to the development of innovation capabilities within an organization, several author's work will be revised that can help to confirm or reject the research problem. But first, the definition of the construct can contribute in terms of clarity. KM is defined as “generally concerned with how organizations create (learning processes), disseminate (knowledge sharing), and measure (intellectual capital measurement) knowledge related assets” (Argote 1999, Edvinsson & Malone 1997, Huber 1991, Sveiby 1997, Sveiby & Risling 1986; cited by Turner & Minonne, 2010). KM “encompasses three main activities: (a) knowledge creation; (b) knowledge transfer, and (c) knowledge storage” (Storey & Kelly, 2002). Since knowledge is a company asset, and therefore an internal resource, its configuration and deployment will play a crucial role in FP (Teece, 1998). In addition, since Knowledge is considered a dynamic capability (Teece & Pisano, 1994; cited by Cantner, Joel, & Schmidt, 2011), it has to be constantly revised and improved to continue providing the value required as a strategic asset. Here lays the importance to apply Knowledge Management practices that contribute to this purpose.

The underlying theoretical support of KM is the Knowledge-Based Theory of the Firm (Grant, 1996). The author stated that Knowledge-Based View of the Firm (KBV) invites managers to embrace organizational forms such as horizontal and team-based structures and inter-firm alliances in order to facilitate Knowledge transfer and accumulation. Also, this

view emphasizes the firm as an organization which its main objective is the making of goods and services, especially because on such making is where the creation, acquisition, storage and deployment of knowledge gains distinctive relevance (Grant, 1996). The authors highlighted that on the KBV, the examination of coordination inside the firm is where this theory promises to generate its greatest contribution. Furthermore, the author concluded:

The emphasis upon the role of the individual as the primary actor in knowledge creation and the principal repository of knowledge, I believe, is essential to piercing the veil of organizational knowledge and clarifying the role of organizations in the creation and application of knowledge. The focus upon knowledge application and disregard for knowledge creation is a more serious limitation. Clearly, a more comprehensive knowledge-based theory of the firm will embrace knowledge creation and application (Grant, 1996, p. 121).

Adams and Lamont (2003) established a process model for showing the methods used by organizations to create and update sustainable competitive advantage and studied the function of knowledge management systems (KMS) in the innovation process. The authors based their research on the contribution of Porter, Barney and Teece et al, about the role of KMS in the development of sustainable competitive advantages. This model focused on those organizations distinguished as learning organizations, defined by Garvin (1993) as “organization skilled at creating, acquiring and transferring knowledge, and modifying its behavior to reflect new knowledge and insights.” (Garvin, 1993. p 80.) As a conclusion, Adams and Lamont (2003) proposed that companies reorganize assets and capabilities in different combinations to enhance existing competitive advantages and create new advantages. Finally, the authors underlined the important function of KMS in obtaining and distributing information and knowledge to promote innovation.

Pitt and MacVaugh (2008) conducted research on how KM techniques support New Product Developments (NPD). The authors stated that KM procedures greatly influence the way a company “generates, stores, accesses, recombines and mobilises what it knows about NPD” (Pitt & MacVaugh, 2008. p 103). Also, such procedures should not be established as uniform, static practices when searching for best functioning.

Also, Li et al. (2009) found a relationships between intrafirm knowledge sharing, knowledge application, and innovation, with knowledge application serving as a mediator in the knowledge sharing-innovation relationship. In addition, the authors encountered that EO may successfully increase the relationship between intrafirm knowledge sharing and knowledge application by positively leveraging its moderating effect. The results of this research showed that to increase a firm’s innovation, companies should stress internal knowledge sharing and subsequently place the shared knowledge into practice through effective knowledge application (Li et al., 2009).

Cantner, Joel, and Schmidtc (2011) found on their research that KM techniques may offer strong results for incremental and radical innovations when implemented by companies. The authors conducted research on German firms by comparing the effects of KM on twin companies where one implemented KM techniques and the other did not. After analyzing the data collected, they encountered that companies that implemented KM procedures obtained better results in terms of product innovations (incremental innovations) and market novelties (radical innovations) than those did not implement them. However, Cantner et al (2011) did not find significant differences between companies that implement KM procedures from those that did not, in terms of cost reduction when process innovations were applied.

Alegre, Sengupta, and Lapiedra (2011) studied how KM practices influence innovation performance in high-tech companies by analyzing the biotechnology sector. The authors argued that KM processes cannot be static, as they need to adapt to a changing

environment. “Current KM practice may become inappropriate in the future; thus, KM dynamic capabilities are needed to reconfigure KM practice.” (Alegre et al., 2011. p 457). Therefore, they proposed that KM procedures should combine organizational systems and dynamic capabilities to create, retain and transfer knowledge. After analyzing the data collected, Alegre et al. (2011) found a positive and significant relationship between KM practices and firm innovation performance, which leads to the conclusion that, taking into account the boundaries of the study, companies can expect better innovation performance when they implement KM practices. In addition, the authors found that such KM practices effect is lifted when the concept KM dynamic capability is introduced. Such concept is defined as “an organization’s ability to reconfigure its KM practices – that is, integrating them in novel, specific and flexible ways to develop new KM systems when required” (Zahra & George, 2002; Tallman et al., 2004; Cepeda & Vera, 2007; Easterby-Smith & Prieto, 2008; cited by Alegre et al., 2011. p 458).

Entrepreneurial Orientation, Knowledge Management and Firm Performance

In terms of the relationship of Knowledge Management (KM) and Entrepreneurial Orientation (EO) with Firm Performance (FP), Wiklund and Shepherd (2003) encountered that EO moderates the relationship between Knowledge-based resources and FP. The authors found that EO can aid in clarifying the managerial processes that give some companies the ability to use their resources to detect and react to environmental signs before other companies. The results of this research confirm the effect EO possess on Knowledge-based resources and the Firm’s performance. This provides theoretical support of this Dissertation’s objective. Wiklund and Shepherd (2003) also called for more studies that involve Knowledge-based resources and its effect on the EO-FP relationship. In addition, Li et al. (2009) found that EO presents a positive and direct effect on FP. Nevertheless, when knowledge creation process is added as a mediator, the positive relationship that EO directly exerts to FP is

weakened. This suggests that knowledge creation process in fact acts as a mediator on the relationship between EO and FP. Furthermore, Abu-Bakar et al. (2014) found that KM is significantly related to FP, as well as EO with FP. Also, they encountered a partial mediation effect of EO between KM and FP (Abu-Bakar et al., 2014). Moreover, Li et al. (2009) studied the relationships between EO, knowledge creation process, and FP. The authors analyzed how EO applied to new ventures presents an influence on FP with the mediating effect of knowledge creation process. Farooq and Vij (2018) found that Knowledge Management Orientation (KMO) in fact fully mediates the relationship between EO and FP. The authors affirmed that executives can improve the Firm performance by adopting EO and KMO. Companies with an Entrepreneurial attitude should foster a strong learning culture, enable knowledge sharing across all levels of the organization and systemize the existing knowledge for future utilization (Farooq & Vij, 2018). Lastly, Hanif, Malik, & Hamid (2018) studied the relationship among knowledge management processes (KM) and international entrepreneurship orientations (IEO) on Firm Performance (FP). The authors surveyed 203 bank employees. The authors opted to analyze both KM and IEO as multidimensional constructs, with KM composed by Knowledge Acquisition (KA), Knowledge Sharing (KS) and Knowledge Utilization (KU), and IEO composed by Innovativeness (I), Proactiveness (P) and Risk Taking (RT) (Hanif et al., 2018). The authors found that all dimensions of KM are positively correlated to FP. Also, the authors found that all dimensions of IEO are positively correlated to FP. Hanif et al. (2018) concluded that banks obtain powerful knowledge and innovative ideas by hiring experienced employees, instead of inexperienced ones, which increase their performance. However, by implementing knowledge sharing and proactive practices, banks can protect themselves from the risk of losing those experienced employees or at least can minimize the impact of losing them by transferring key knowledge to less experienced ones and to the bank itself (Hanif et al., 2018). The aforementioned study differs

from this Dissertation on the context, the way the different constructs were measured (KM, EO and FP) and on the measurement unit (Employees instead of companies).

Summary

According to Wernerfelt (1984), the RBV suggests that a firm's competitive advantage comes from its capability to organize and leverage a suitable combination of resources, both of tangible and intangible type. Barney (1991) suggested the concept of sustainable competitive advantage (SCA), which stated that resources should be valuable, rare, hard to imitate and hard to substitute, to be a source of competitive advantage. Teece et al. (1997) suggested the concept of Dynamic Capabilities as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece et al., 1997. p 516). Eisenhardt and Martin (2000) debated the approach suggested by Teece et al. (1997) about the Dynamic Capabilities by stating that they need the participation of specific processes such as product development, Also, they are homogeneous and easy to substitute on firms that possess them. Finally, they can take different forms, according to market dynamics.

Miller (1983) defined EO, indirectly as "the extent to which the top managers are inclined to take business-related risks (the risk-taking dimension), to favor change and innovation to obtain a competitive advantage for their firm (the innovation dimension), and to compete aggressively with other firms (the proactiveness dimension)" (Miller, 1983). But Covin and Slevin (1988) were the ones that coined the term, based on the aforementioned definition. Lumpkin and Dess (1996) added two more dimensions to propose five dimensions that compose the EO construct: "autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness" (Lumpkin & Dess, 1996, p. 149). Wales (2016) noted that while Miller (1983) and Covin and Slevin (1989) proposed a three-dimensional perspective of EO (Risk-taking, innovation and proactiveness), and Lumpkin & Dess (1996) suggested a five-

dimensional perspective (Autonomy, risk-taking, innovativeness, proactiveness and competitive aggressiveness), scholars concluded that the two approaches can co-exist, with each one offering distinctive insights. As Covin and Wales (2012) stated:

one might say that the Lumpkin and Dess's (1996) conceptualization of EO is more domain focused– that is, it specifies where to look for EO – whereas the Miller (1983) conceptualization of EO is more phenomenon-focused – that is, it specifies what EO looks like. (Covin & Wales 2012, p.681)

Lumpkin and Dess (1996) also proposed a conceptual framework of EO which is the theoretical base for this research. In such conceptual framework, EO is the independent variable and FP the dependent one. FP can be measured by concepts such as Sales Growth, Market Share, Profitability, Overall Performance or Stakeholder satisfaction. In addition, the authors proposed two moderating and mediating factors that may influence the relationship between EO and FP which are Environmental and Organizational Factors, which include KM as an Organizational factor (Lumpkin & Dess, 1996). KM “encompasses three main activities: (a) knowledge creation; (b) knowledge transfer, and (c) knowledge storage” (Storey & Kelly, 2002, p. 59). Since knowledge is a company asset, and therefore an internal resource, its configuration and deployment will play a crucial role in FP (Teece, 1998). This paves the path to be a potential influencer of the EO-FP relationship. Pitt and MacVaugh (2008) found that KM procedures greatly influence the way a company “generates, stores, accesses, recombines and mobilises what it knows about NPD” (Pitt & MacVaugh, 2008, p 103.) (Cantner et al., 2011) found on their research that KM techniques may offer strong results for incremental and radical innovations when implemented by companies. Alegre et al. (2011) found a positive and significant relationship between KM practices and firm innovation performance. They also found that KM practices effect is lifted when the concept KM dynamic capability is

introduced. Adams and Lamont (2003) underlined the important function of KMS in obtaining and distributing information and knowledge to promote innovation.

Also, Li et al. (2009) found a relationships between intrafirm knowledge sharing, knowledge application, and innovation, with knowledge application serving as a mediator in the knowledge sharing-innovation relationship. In addition, the authors encountered that EO may successfully increase the relationship between intrafirm knowledge sharing and knowledge application by positively leveraging its moderating effect.

In terms of the relationship of KM and EO with FP, Farooq and Vij (2018) found that Knowledge Management Orientation (KMO) in fact fully mediates the relationship between EO and FP. In addition, Abu-Bakar et al. (2014) found that KM is significantly related to FP, as well as EO with FP. Also, they encountered a partial mediation effect of EO between KM and FP. Moreover, Li et al. (2009) found that EO presents a positive direct effect on FP and knowledge creation process acting as a mediator on the relationship between EO and FP. Furthermore, Wiklund and Shepherd (2003) encountered that EO moderates the relationship between Knowledge-based resources and FP. Lastly, Hanif et al. (2018) studied the relationship among knowledge management processes (KM) and international entrepreneurship orientations (IEO) on Firm Performance (FP). The authors found that all dimensions of KM are positively correlated to FP. Also, the authors found that all dimensions of IEO are positively correlated to FP. Hanif et al. (2018) concluded that banks obtain powerful knowledge and innovative ideas by hiring experienced employees, instead of inexperienced ones, which increase their performance. The authors found that EO can aid in clarifying the managerial processes that give some companies the ability to use their resources to detect and react to environmental signs before other companies. The results of this research confirm the effect EO possess on Knowledge-based resources and the Firm's performance. This provides theoretical support of this Dissertation's objective.

Conclusion

After analyzing these theories, the following conclusion can be drawn. Innovation can be considered a fundamental internal capability that contributes to the generation of competitive advantage. Also, it fits to the definition of a Dynamic capability, which contributes to accomplishing the necessary adaptability that today's organizations require to maintain its competitive advantage. A positive relationship has been found between OE and FP in different contexts (Choi & Williams, 2016; Covin & Slevin, 1988; Li et al., 2009; Lumpkin & Dess, 1996; Rauch, Wiklund, Lumpkin, & Frese, 2009; Real, Roldán, & Leal, 2014).

KM practices present a positive influence on innovation capabilities (Adams & Lamont, 2003; Alegre et al, 2011; Cantner, et al. 2011; Li et al., 2009; Pitt & MacVaugh, 2008), which contributes to its relationship to the generation of competitive advantage. In addition, in terms of the relationship of KM and EO with FP, KM and EO have been found to positively influence FP, with KM fully mediating the relationship between EO and FP (Farooq & Vij, 2018), EO partially mediating the KM-FP relationship (Abu-Bakar et al., 2014), EO moderating the relationship between Knowledge-based resources and FP (Wiklund & Shepherd, 2003), and Knowledge Creation process acting as a mediator on the relationship between EO and FP (Li et al., 2009). The results of the aforementioned studies provide theoretical support of this Dissertation's objective. However, up to date, no studies have been found that explore the influence KM plays on the relationship between EO and FP, in the context of Latinamerican firms. Therefore, this research focused on finding the degree that KM-EO-FP positive relationships also applies in the context of Colombian companies.

Chapter 3: Methodology

This chapter presents how the research was conducted, data collected and analysis carried out to complete the present research. It includes the research design, explaining the type of variables and the relationships among them that were studied. An explanation of why this design is appropriate is included. The research questions and their subsequent hypothesis are shown. The population subject to study and the sample chosen for data collection is presented, along with its geographical location and the confidentiality statement. The instruments used as means to collect the necessary data to study are explained and the reliability and validity of them are shown. The procedures and tools for data collection are indicated and how the data was analyzed is explained. Finally, validity and reliability of the research is explained.

Research Design

The present research utilizes a quantitative, cross sectional and correlational research method due to the nature of the data that was collected and the relationship analysis that the researcher tested. The aim was to test theoretical relationships between constructs and not to establish causality. The data collected was cross-sectional, which prevents causal linkages between the variables to be formed. Longitudinal studies should be conducted in order to verify that causal relationships exist, as stated by Covin and Slevin (1988) when conducting a similar research design. To achieve the purpose of this research, a quantitative research method is more suitable for this research because the EO-FP relationship can be placed in a mature state, considering the archetypes or methodological fit suggested by Edmondson and Mcmanus (2007). Therefore, the authors argue, for a mature theory a quantitative method is more commonly used (Singleton & Straits, 2010) for data collection, relying on existing constructs and measures and adding a new mechanism to an already supported theory (Edmondson & Mcmanus, 2007). This fit is precisely what the researcher carried on with the

present research. A qualitative research method was not suitable for this research because there is not a company that is representative enough, within the Colombian economic sector, to be analyzed as a case study (for example) that reflects the reality of such economic sector. It is cross-sectional, given the fact that the data collected only shows the sampled company's reality in a specific moment (Babbie, 2010), which is sufficient to achieve the purpose of this research. Hernandez-Sampieri et al. (2010) stated that the purpose of a correlational research scope is to determine the level of relationship that two or more concepts, categories or variables present, in a given context. This is precisely the purpose of this research.

Considering the variables mentioned in the first chapter of the present dissertation, the initial theoretical model proposed was the following. On next chapter, the final theoretical model analyzed is shown:

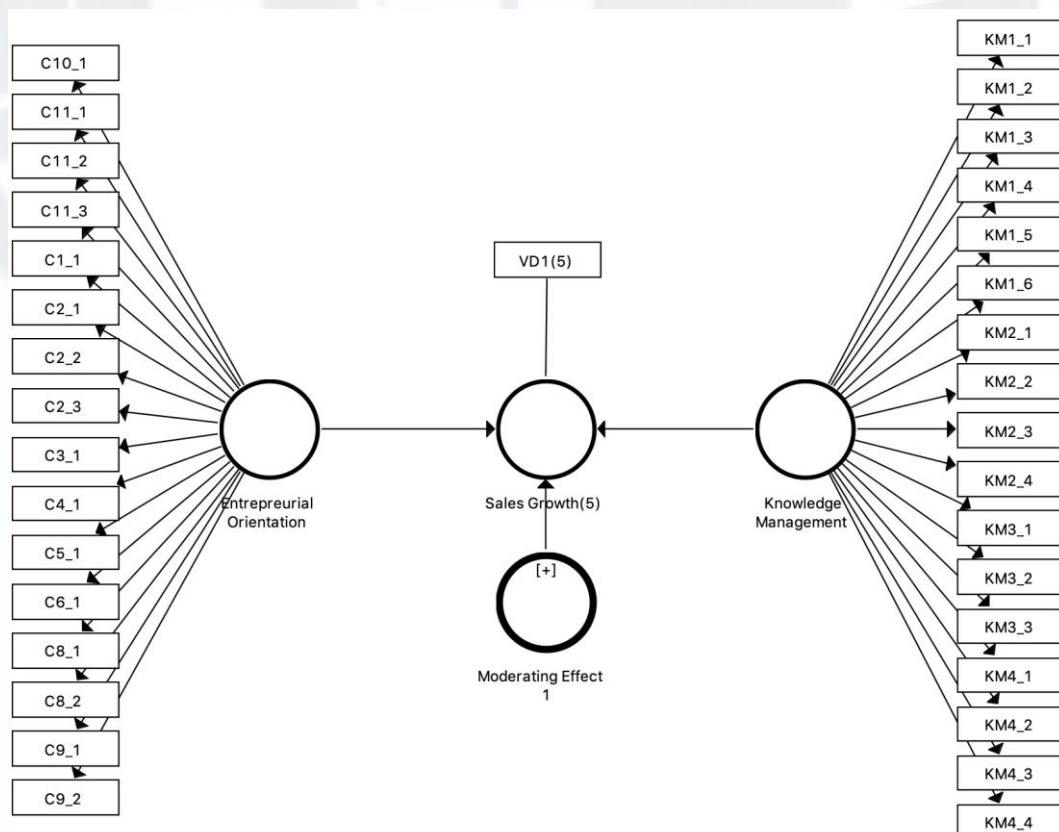


Figure 3. Initial conceptual framework with items

The KM construct is composed by Knowledge Utilization (KUt), Knowledge Accumulation (KAc), Knowledge Internalization by Education Opportunity and

Organizational Learning (KIEOL), Knowledge Internalization by Task-related Knowledge (KITK), Knowledge Sharing (KSh), Knowledge Creation by Task Understandings (KCTU) and Knowledge Creation by Information Understandings (KCIU) (Lee et al., 2005). However, for this research, only Knowledge Utilization (KUt), Knowledge Sharing (KSh), Knowledge Creation by Task Understandings (KCTU) and Knowledge Creation by Information Understandings (KCIU), were considered. This choice was based on the definition of KM that has been taken as a reference for this research, which considers it to be composed by knowledge creation, knowledge sharing and the measurement and accumulation of knowledge related assets (Turner & Minonne, 2010). The aforementioned subconstructs were selected from the instrument, as the ones that better measure the components of this definition (knowledge creation, knowledge sharing and the measurement and accumulation of knowledge related assets).

As mentioned before, the EO construct is composed by the following dimensions: “autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness” (Lumpkin & Dess, 1996, p. 149). However, only items from Autonomy (Aut), Innovativeness (Inn), Risk Taking (Rsk) and Proactiveness (Pro) were included on the analyzed model. Competitive Aggressiveness was considered but none of its items were kept due to validity and reliability issues (Hair, Hult, Ringle, & Sarstedt, 2017). Therefore, all items from this dimension were removed from the model. Further details can be found in Chapter 4. In addition, based on the literature revised in the previous chapter, the present research measured EO as an unidimensional construct and analyzed its compound effect on the dependent variable, not the effect of each dimension independently, as various researchers on the subject have chosen to do. (Rauch et al., 2009) Furthermore, the questionnaire utilized for measuring EO was designed to measure it as an unidimensional construct. (Moreno and Casillas, 2008).

For the purpose of the present research, Sales Growth for the last five years (SG5) was utilized to measure Firm Performance, considering the theoretical framework suggested by Lumpkin & Dess (1996), which has been broadly used (Rauch et al., 2009; Wales, 2016). From the theoretical standpoint, Sales Growth is an acceptable indicator to measure FP and presents adequate explanatory power of a company's performance when studying its relation to EO. Covin, Green, y Slevin (2006), who are seminal authors of the EO-FP field of study, (with the exception of Green) studied such relationship utilizing Sales Growth as an indicator to measure FP. The authors selected this indicator based on Lumpkin y Dess (1996) theoretical argumentation, stating that "Sales growth rate is the firm performance variable examined in this research because an EO is, essentially, a growth orientation (Lumpkin & Dess, 1996, cited by Covin et al., 2006)". Also, considering the strategic patterns suggested by Miles, Snow, Meyer, and Coleman (1978), the Prospector strategy aims to proactively reach innovation and a company's growth, even at the expense of efficiency (expressed by profitability, productivity, among others) (Miles et al., 1978, p. 554), establishing that growth measures (such as Sales Growth) are more related to innovation capabilities within companies than efficiency measures. In addition, Ansoff (1980) linked entrepreneurial activities (such as product and technology development and new market entry) to exponential growth, not to financial and operational efficiency. On the other hand, Rauch et al. (2009) did not find significant differences between studies that measured FP using growth indicators (including Sales Growth) and those that measured FP utilizing profitability indicators. The authors did not even find significant differences among studies that measured FP using non-financial indicators and those utilizing financial ones, when studying its relation with EO. This suggests that EO-FP relationship is strong enough to not be affected by different ways to measure FP (Rauch et al., 2009). Wales (2016) affirmed that the EO-FP relationship has been broadly studied using indicators of Growth (including Sales Growth) to measure FP. In

fact, the author called for more research focusing on non-financial indicators to measure FP as opportunities for future studies (Wales, 2016).

Considering the aforementioned authors and their conducted research, Sales Growth was selected as a valid indicator to measure FP when studying its relation to EO and was calculated, as suggested by Subramanyam (2014), by measuring the Sales Growth between 2013 and 2017. Each year's growth was obtained using the variation financial formula, where represented the final year sales number (e.g. 2017) and represented the initial year sales number (e.g. 2016). After each year's variation was calculated, the average from 2013 and 2017 was estimated and used as SG5 (Subramanyam, 2014). Other financial indicators such as Profit Growth and Market Share were also considered and analyzed, as also suggested for the aforementioned authors, but they did not present a statistically significant effect. Further details can be found in Chapter 4.

Regarding the proposed model, it is important to explain why the researcher would like to investigate it. According to the literature regarding EO-FP relationship and the variables that may influence such relationship, knowledge, which is the fundamental asset to be managed in KM practices, may be contemplated as part of a Firm resources that generate competitive advantage, considering that it is valuable, rare, hard to imitate and hard to substitute (Barney, 1991). Therefore, the present research considered KM practices as a variable that plays a crucial role in the EO-FP relationship. Baron and Kenny's (1986, p. 1176) defined a mediator variable as a variable that "explains how external physical events take on internal psychological significance. Whereas moderator variables specify when certain effects will hold, mediators speak to how or why such effects occur." This is accurately the effect of EO that the researcher found in the relationship between KM-EO-FP. In addition, only one study has been found yet on academic literature (Abu-Bakar et al., 2014) regarding the mediation effect of EO, in the relationship between KM and FP, and another

one studying the moderation effect of EO on the KM-FP relationship (Li et al., 2009). No study of similar characteristics has been found yet in the Latinamerican context. Which aims to be the contribution of this research on academic literature. As concluded by Heredia-Pérez, Geldes, Kunc and Flores (2019) innovation processes in emerging economies show different characteristics from those running in developed economies, which grants this research academic relevance.

Appropriateness of Design

Considering the variables mentioned in the first chapter of this research, the model was analyzed and tested utilizing the statistical technique known as Structural Equation Modeling (SEM). This technique is appropriate for the model because SEM possesses the capacity to analyze both observed and latent variables, which differentiates this technique from other standard statistical techniques, such as ANOVA and MR, which analyze observed variables only (Kline, 2011). In addition, it is important to state that the SEM technique is not designed to prove causality, since it does not fulfill the necessary requirements to do so and cannot provide warranted causal assertions. Nonetheless, since the purpose of this study is to test theoretical relationships between constructs and not to establish causality, this does not present an obstacle to conduct this study. Also, when analyzing data with SEM, reproductions of results with independent samples are necessary, particularly if the models are acquired based on post hoc modifications. (Jaffe & Hershberger, 2014). More specifically, the technique used was Partial Least Squares Structural Equation Modeling (PLS-SEM). This technique was chosen considering its feasibility to analyze latent variables and the relatively small sample size, covariance-based SEM are not suitable for this small sample size (Kline, 2011). It was also selected because it does not need the data to be normally distributed, although it is recommended that it does not deviate greatly from a normal distribution, in order to avoid problems with the parameters' statistical significance (Hair et al., 2017, 2019).

In PLS-SEM, the minimum sample size is established considering the number of directed arrows pointing to the latent variables composing the model, the f square, and a minimum value of R square, with its corresponding P Value (Hair et al., 2017).

Research Questions

The main questions initially proposed were:

1. How is the relationship between EO and FP on Colombian companies?
2. Does KM moderate the relationship between EO and FP?

Nevertheless, considering the new hypotheses that arose during the data analysis process, the following questions surfaced:

3. How is the relationship between KM and FP on Colombian companies?
4. How is the relationship between KM, EO and FP?

Hypothesis

The main hypotheses that were initially proposed were the following:

1. H_2 : There will be a relationship between EO and FP on Colombian companies.
2. H_3 : KM practices moderate the relationship between EO and FP.

However, when the data analysis process was carried out, the relationship between the proposed variables and the proposed moderating effect did not result to be statistically significant and some of the null hypotheses were accepted. Therefore, the researcher proceeded to validate an alternative model, estimating new relations that were theoretically plausible among the studied variables. As a result, three new hypotheses were tested on the final model, based on Literature Review. In terms of the relationship of KM and EO with FP, it has been found that EO moderates the relationship between Knowledge-based resources and FP (Wiklund & Shepherd, 2003), Knowledge Creation process acts as a mediator on the relationship between EO and FP (Li et al., 2009), EO partially mediates the KM-FP relationship (Abu-Bakar et al., 2014), KM and EO have been encountered to positively

influence FP, with KM fully mediating the relationship between EO and FP (Farooq & Vij, 2018), and EO and KM being positively correlated with FP (Hanif et al., 2018).

Consequently, as a contribution to the existing literature, this dissertation focused on finding the degree that EO-FP positive relationships also applies in the context of Colombian companies, and how KM influences this relationship on such context.

The results of the aforementioned studies showed a gap on the literature: No academic literature was found to date that have studied the mediating role of EO between the KM-FP relationship, which provide theoretical support of this Dissertation's hypotheses. In addition, Baron y Kenny (1986, p. 1176) defined a mediator variable as a variable that "explains how external physical events take on internal psychological significance. Whereas moderator variables specify when certain effects will hold, mediators speak to how or why such effects occur," which is the interest of the researcher to test this effect of EO in the KM-FP relationship. Therefore, the new proposed Hypothesis were:

1. H_1 : There is a significant positive relationship between KM and FP on Colombian companies.
2. H_2 : There is a significant positive relationship between EO and FP on Colombian companies.
3. H_3 : EO mediates the relationship between KM and FP on Colombian companies.

Population

The population subject of study were Colombian companies, located in the Antioquia Department, from all economic sectors. Up to 2016, there were 121,983 companies registered (Cámara de Comercio de Medellín para Antioquia, 2017). These type of companies guarantees the researcher a higher level of maturity and increases the probability of having EO and KM practices implemented. It is desired to study companies that implement KM

practices to create, preserve and distribute the knowledge generated by their employees and formalization increases the chances to encounter them.

Informed Consent

The companies that will be enlisted to participate in this research will be asked to participate voluntarily. When providing the survey to the companies that are willing to participate, each respondent will be informed about the purpose of this research with the following information as the survey's header:

“The data collected for this study is conducted as a scientific research project. On the following questions, you will encounter that there are neither right nor wrong answers. Please, answer honestly all the proposed questions. Your sincerity is very important to ensure the validity of the research project. Please read the instructions carefully on each section. Do not stop extensively on one single question”.

Sampling

The sampling technique utilized was convenience sampling (Singleton Jr & Straits, 2010). However, the companies that were part of the study were selected from databases, contacted directly and they decided to answer the given questionnaire voluntarily. From the 121,983 companies that are part of the research's population, the instrument for Data Collection was expected to be sent to 2,436, which are companies that are part of the Colombian Export Promotion Agency's database, at its Medellin's office (Procolombia, 2016). However, this institution chose to withdraw from the research. It was expected that at least 10% of those 2,436 companies (243) completely responded the questionnaire to carry out the present research analysis. As a result, the instrument for Data Collection was sent to 1,434, which are companies that either are part of Inexmoda's (2019)¹, Proantioquia's (2019)²

¹ Inexmoda is a non-profit, private institution that aims to connect the different stakeholders at the Medellin's fashion industry, by transform and strengthen this industry to promote its growth and development (Inexmoda, 2019).

or Emis Benchmark's (2019)³ databases. This ensures they are mature enough to have a proven business model that generated sales on five years. It was expected that at least 10% of those 1,434 companies (143) completely responded the questionnaire to carry out the present research analysis. Although the ideal technique to determine the sample size is the maximum likelihood (ML) technique (Kline, 2011), given the limitations of company access, the sample size obtained by applying it will not be realistic.

Confidentiality

To assure the confidentiality of the information provided by the participants, no individual company's results will be published. Every information published will reflect aggregate information of the Colombian service sector, represented by the sampled companies. This to avoid any leak of sensitive information that may affect any company's competitive advantage. When providing the survey to the companies that were willing to participate, each respondent was informed about the confidentiality of the information gathered in this research, with the following information as the survey's header:

This questionnaire is anonymous and the information gathered will be protected. The answers you are kindly providing will be used only for this research project and its results will be published jointly. That is to say, there will not be any publication of your individual responses or your company's individual information.

Geographic Location

The present research was conducted in Colombia, South America. This country is an interesting selection to conduct this study, due to its economy's size. Colombia was the 4th biggest economy in Latinamerica, in terms of Gross Domestic Product (GDP), in 2017 (World

² Proantioquia is an institution from Medellin, Colombia that aims to reduce inequalities in the Country by conducting social work that benefits its population. It serves as a link between the private and public sector (Proantioquia, 2019).

³ Emis Benchmark is an electronic data base that provides information about emerging markets, including financial information regarding companies from such markets, including Colombian companies. (Emis Benchmark, 2019)

Bank, 2019). Therefore, its companies may be considered to be good examples of economic units in the region. The companies to be part of the sample were in Antioquia. Antioquia is the second largest Colombian Department in terms of number of registered companies (Dane, 2019). As mentioned before, such companies were part of either Inexmoda's (2019) Proantioquia's (2019) or Emis Benchmark's (2019) databases.

Instrumentation

For this research, two standard instruments were utilized for the purposes of data collection. First, the questionnaire that was utilized to measure EO was based on scales developed and tested by various authors (Khandwalla, 1977; Miller & Friesen, 1983; Covin and Slevin, 1989; Covin & Covin, 1990), but compiled and utilized by Lumpkin (1998) and Lumpkin and Dess (2001). The actual version used was the translation to Spanish made by Moreno and Casillas (2008), which kindly shared the translated questionnaire with the researcher (see Appendix B and C).

Second, KM was measured utilizing The Knowledge Management Performance Index (KMPI) developed by Lee, Lee, and Kang (2005). In this index, the authors developed a scale composed by the following sub-constructs: Knowledge Utilization (KU), Knowledge Accumulation (KAc), Knowledge Internalization by Education Opportunity and Organizational Learning (KIEOL), Knowledge Internalization by Task-related Knowledge (KITK), Knowledge Sharing (KSh), Knowledge Creation by Task Understandings (KCTU) and Knowledge Creation by Information Understandings (KCIU) (Lee et al., 2005). As mentioned before, for this research only Knowledge Utilization (KU), Knowledge Sharing (KSh), Knowledge Creation by Task Understandings (KCTU) and Knowledge Creation by Information Understandings (KCIU), were considered. This choice is based on the definition of KM that has been taken as a reference for this research, which considers it to be composed by knowledge creation, knowledge sharing and the measurement and accumulation of

knowledge related assets (Turner & Minonne, 2010). The aforementioned subconstructs were selected from the instrument, as the ones that better measure the components of this definition (knowledge creation, knowledge sharing and the measurement and accumulation of knowledge related assets). The questionnaire utilized to measure KM can be found on Appendix D.

Finally, Sales Growth of the last five years (SG5) was utilized to measure Firm Performance, taking into account the theoretical framework suggested by Lumpkin & Dess (1996). Other financial indicators such as Profit Growth and Market Share were also considered and analyzed, as also suggested for the aforementioned authors, but they did not present a statistically significant effect. Sales Growth data was collected in two ways. First, companies were asked to report the sales they accomplished from years 2013 to 2017. This procedure proved to be problematic, since companies showed to be reluctant to report their sales numbers. Second, the information related to their sales was gathered from an electronic database called EMIS BENCHMARK (2019), where the companies' financial statements are published. This prevents common method bias issues (Conway & Lance, 2010).

Selection Appropriateness

The two instruments selected are appropriate for the present research because they are tools that help measure the variables stated to be part of what the researcher would like to detect on Colombian companies. In addition, both instruments have been part of articles published in renown international journals. Moreno and Casillas (2008) published their work, based in the instrument that was utilized on this research, at the journal *Entrepreneurship: Theory and Practice*. This journal was ranked Q1 (which is the maximum qualification possible) in Scimago Journal rank at the time of publication (Scopus, 2019a). Lee et al. (2005) published their work, based in the instrument that was utilized on this research, at the journal *Information and Management*. This journal was ranked Q1 (which is the maximum

qualification possible) in Scimago Journal rank at the time of publication (Scopus, 2019b).

This assures that the quality and validity of such questionnaires have been revised by peers in their journal's review process.

Data Collection

The instrument utilized to collect the data analyzed was electronic surveys. Using software called Qualtrics (2019), the selected measuring instruments were embodied in an electronic survey form and sent to the sampled companies to be responded. The data was collected implementing two versions of the electronic questionnaire. On the first version, companies were asked to report the sales they accomplished from years 2013 to 2017. This procedure proved to be problematic, since companies showed to be reluctant to report their sales numbers. This led them to open the questionnaire but close it immediately, without answering any question. From the first version of the questionnaire 226 companies opened it, but only 61 of them completed it. On the second version, companies were asked to only answer those questions related to the instruments selected to measure the Entrepreneurial Orientation and the Knowledge Management they possess. The information related to their sales was gathered from an electronic database called EMIS BENCHMARK (2019), where the companies' financial statements are published. This procedure proved to be more effective, since the response rate increased. From the second version of the questionnaire 213 companies opened it, and 122 of them completed it. In total, the questionnaires were sent to 1,595 companies. 183 complete questionnaires were collected, which shows a response rate of 11,5%. The companies were contacted via e-mail and by phone call. The databases were provided by International institutions such as Emis Benchmark (2019), as well as National institutions such as Inexmoda (2019) and local ones such as Proantioquia (2019). Although it would have been ideal to visit each company and conduct the survey personally to prevent

any misunderstanding, it was not possible to carry out, due to resources constrains for this research.

Data Analysis

The model was analyzed and tested utilizing the SEM statistical technique. This technique is appropriate for the model because SEM possesses the capacity to analyze both observed and latent variables, which differentiates this technique from other standard statistical techniques, such as ANOVA and Multiple Regressions (MR), which analyze observed variables only (Kline, 2011). Both EO and KM can be considered latent variables, which refers to “hypothetical constructs or factors, which are explanatory variables presumed to reflect a continuum that is not directly observable.” (Kline, 2011, p. 9). In addition, FP, in the form of sales growth, can be considered an observed variable which “used as an indirect measure of a construct is referred to as an indicator” (Kline, 2011, p. 9). Therefore, SEM seems to be the more suitable statistical technique to analyze and test the data collected in the present research. In addition, since the proposed model include latent and observed variables simultaneously, this adds up complexity to the data analysis, which makes SEM a reasonable choice. “The explicit distinction between factors and indicators in SEM allows one to test a wide variety of hypotheses about measurement” (Kline, 2011, p. 9). More specifically, the technique used was Partial Least Squares Structural Equation Modeling (PLS-SEM). This technique was chosen considering its feasibility to analyze latent variables and the relatively small sample size, which covariance-based SEM may not be suitable for this small sample size. It also was selected because it does not need the data to be normally distributed, although it is recommended that it does not deviate greatly from a normal distribution, in order to avoid problems with the parameters’ statistical significance (Hair et al., 2017). In PLS-SEM, the minimum recommended sample size is established considering the number of directed arrows pointing to the latent variables composing the model to reach a given value of R square, with

its corresponding P Value (Hair et al., 2017). In the case of the present research, the suggested sample size is 90, considering that the theoretical model has two arrows pointing to latent variables and a desired 0,10 value for R square, at 5% probability of error (Hair et al., 2017).

Validity and Reliability

PLS-SEM requires certain considerations and metrics for the analysis and result reporting. First, to assess the Reflective Model Measurements it is necessary to report Factor loadings, Cronbach Alpha (α), Composite Reliability, AVE, Heterotrait-Monotrait Ratios (HTMT), and HTMT values. Second, to evaluate the Structural Model Assessment, it is necessary to report VIF and Path Coefficients. All of these measurements are reported in Chapter 4. Before the data was collected among the established sample, a pilot study was conducted to ensure validity and reliability of the questionnaire to be used. Although the validity and reliability of the instruments have been provided by the authors that developed them, it is important to test them in the Colombian context. This is especially important for the KM instrument, since it was developed in English and it was translated and used in Spanish for the present research. The technique of back translation (Brislin, 1970) was implemented to ensure the quality of the translation to Spanish for the instrument developed by Lee, Lee, and Kang (2005) to measure Knowledge Management (KM). The instrument to measure Entrepreneurial Orientation (EO) used for data collection was the translation to Spanish made by Moreno and Casillas (2008) which kindly shared the translated questionnaire with the researcher (see Appendix B and C). Second, an electronic questionnaire was created and shared with 50 companies that were part of the sample. 12 complete responses were received, which shows a response rate of 24%. An additional comments box was added to the Pilot Questionnaire, encouraging respondents to leave comments regarding the clarity of the questions and suggestions to improve their comprehensibility. After the Pilot Study was conducted, no improvements or

comprehensibility problems were reported by the respondents. Therefore, the electronic questionnaire was found to be ready to be distributed to the rest of the sample.

Table 2

Parameters of the Model

Construct	Loading	Composite reliability (CR)	Average variance Extracted (AVE)
Latent variables of 1st model			
EO-I-Prd		0.90	0.82
	Ipt1	0.90	
	Ipt2	0.90	
EO-I-Prc		0.79	0.66
	Ipr1	0.79	
	Ipr2	0.82	
EO-Risk		0.82	0.61
	Rsk1	0.72	
	Rsk2	0.77	
	Rsk3	0.83	
EO-Proac		0.93	0.87
	Prc1	0.94	
	Prc2	0.92	

Note. Adapted from Moreno, A. M., & Casillas, J. C. (2008). Entrepreneurial Orientation and Growth of SMEs: A Causal Model. *ENTREPRENEURSHIP THEORY and PRACTICE*, p. 519

Regarding EO questionnaire, Moreno and Casillas (2008) reported the validity and reliability of their measures, Details are shown on Table 2:

Describes first, the loadings (reflective items) and weights (formative items) of each of the items in order to analyze their individual reliability. Second, the reliability of the reflective constructs is represented, by means of the composite reliability, the value of which must be higher than 0.7 (Fornell & Lacker, 1981). Third, it includes the convergent validity of these latent variables, measured using the Average Variance Extracted (AVE), which must be higher than 0.5 (Fornell & Lacker, 1981). And, finally, the discriminant validity must be analyzed, which measures whether the constructs are different. For this purpose, AVE should be greater than the variant shared between one construct and other construct in the model. For adequate

discriminant validity, the diagonal elements should be significantly greater than the off-diagonal elements in the corresponding rows and columns (Barclay et al., 1995).

All of our constructs satisfy this condition (Moreno & Casillas, 2008, pp. 518, 519).

Table 3

Factor Structure of Variables

Factor	Eigenvalue	Cronbach's alpha	Factor Loadings of items	Convergent validity of items
Knowledge utilization	4.13	0.86		
KM1			0.80	0.86
KM2			0.64	0.68
KM3			0.62	0.72
KM4			0.53	0.67
KM5			0.52	0.71
KM6			0.51	0.68
Knowledge sharing	2.35	0.75		
KM7			0.88	0.64
KM8			0.78	0.73
KM9			0.72	0.71
KM10			0.54	0.61
Knowledge creation by task understandings	2.34	0.72		
KM11			0.64	0.62
KM12			0.63	0.64
KM13			0.55	0.66
Knowledge creation by information understandings	2.01	0.70		
KM14			0.75	0.63
KM15			0.56	0.67
KM16			0.55	0.64
KM17			0.53	0.71

Note: Adapted from Lee, K. C., Lee, S., & Kang, I. W. (2005). KMPI: Measuring knowledge management performance. *Information and Management*, 42(3), p. 476.

Regarding KMPI questionnaire, Lee et al. (2005) reported the validity and reliability of their measures. Details are shown on Table 3:

A preliminary factor analysis validated the measures used in the KMPI calculation model. Exploratory factor analysis was adopted using the orthogonal rotation method.

Seven factors had Cronbach's alpha value greater than 0.7, indicating that internal consistency is guaranteed for each... reliability and convergent validity were significant because Cronbach's alpha was greater than or equal to 0.70, and all convergent validity was greater than 0.60 (K. C. Lee et al., 2005, p. 475).



Chapter 4: Results

In this chapter, Data analysis procedures are fully explained and results shown regarding the Research model proposed on Chapter 1 and 3. Results concerning the reflective model measurements are shown such as Factor loadings, Cronbach Alpha (α), Composite Reliability, AVE, Heterotrait-Monotrait Ratios (HTMT) are reported. In addition, HTMT values (analyzed from the bootstrap confidence intervals) are shown. Concerning the Structural Model Assessment, results such as VIF, f^2 , and Path Coefficients are reported in this Chapter. Finally, the model's Statistical Significance and the Hypotheses were tested.

Results

Concerning the data collection processed, it was carried out by the distribution of an electronic survey. Using software called Qualtrics (2019), the selected measuring instruments were embodied in an electronic survey form and sent to the sampled companies to be responded. It was asked for such companies to allow only employees closely related to Innovation and Knowledge Management processes to respond the survey. The data was collected implementing two versions of the electronic questionnaire. On the first version, companies were asked to report the sales they accomplished from years 2013 to 2017. This procedure proved to be problematic, since companies showed to be reluctant to report their sales numbers. This led them to open the questionnaire but close it immediately, without answering any question. From the first version of the questionnaire 226 companies opened it, but only 61 of them completed it. On the second version, companies were asked to only answer those questions related to the instruments selected to measure the EO and the KM they possess. The information related to their sales was gathered from EMIS BENCHMARK (2019) electronic database, where the companies' financial statements are published. This procedure proved to be more effective, since the response rate increased. From the second version of the questionnaire 213 companies opened it, and 122 of them completed it. In total,

the questionnaires were sent to 1,595 companies. 183 complete questionnaires were collected, which shows a response rate of 11,5%. The companies were contacted via e-mail and by phone call. The databases were provided by International institutions such as Emis Benchmark (2019), as well as National institutions such as Inexmoda (2019) and local ones such as Proantioquia (2019). Table 4 presents more information about the sampled companies.

Table 4

Description of the sample

	No of firms	Percentage (%)
Size of firms (employees)		
Between 1 and 10	29	16%
Between 11 and 50	59	32%
Between 51 and 200	56	31%
More than 200	39	21%
Economic sector	183	100%
Agriculture	19	10%
Manufacturing	81	44%
Services	83	45%
Total	183	100%

Regarding the pilot study implemented to test the instruments utilized, first, the technique of back translation (Brislin, 1970) was implemented to ensure the quality of the translation to Spanish for the instrument developed by Lee, Lee, and Kang (2005) to measure Knowledge Management (KM). The instrument to measure Entrepreneurial Orientation (EO) used for data collection was the translation to Spanish made by Moreno and Casillas (2008) which kindly shared the translated questionnaire with the researcher (see Appendix B and C). Second, an electronic questionnaire was created and shared with 50 companies that were part of the sample, 24 of them opened the questionnaire and 12 complete responses were received, which shows a response rate of 24%. An additional comments box was added to the Pilot Questionnaire, encouraging respondents to leave comments regarding the clarity of the questions and suggestions to improve their comprehensibility. After the Pilot Study was

conducted, no improvements or comprehensibility problems were reported by the respondents. Therefore, the electronic questionnaire was found to be ready to be distributed to the rest of the sample.

Considering the Data analysis, the technique used was Partial Least Squares Structural Equation Modeling (PLS-SEM). This technique was created by Herman O. A. Wold that estimates partial model structures by merging main components analysis with regular least squares regressions (Hair et al., 2019). PLS-SEM is a variance-based technique that utilizes the total variance to estimate parameters (Hair et al., 2017). As Hair et al. (2019) suggest, this technique is suitable to be used:

- when the analysis is concerned with testing a theoretical framework from a prediction perspective;
- when the structural model is complex and includes many constructs, indicators and/or model relationships;
- when the research objective is to better understand increasing complexity by exploring theoretical extensions of established theories (exploratory research for theory development);
- when the path model includes one or more formatively measured constructs;
- when the research consists of financial ratios or similar types of data artifacts;
- when the research is based on secondary/archival data, which may lack a comprehensive substantiation on the grounds of measurement theory;
- when a small population restricts the sample size (e.g. business-to-business research); but PLS-SEM also works very well with large sample sizes;
- when distribution issues are a concern, such as lack of normality; and
- when research requires latent variable scores for follow-up analyses. (Hair et al., 2019, p. 5)

As a result, PLS-SEM technique was chosen considering its feasibility to analyze latent variables and the relatively small sample size that was used for this research, which covariance-based SEM may not be suitable for this small sample size. It also was selected because it does not need the data to be normally distributed, although it is recommended that it does not deviate greatly from a normal distribution, in order to avoid problems with the parameters' statistical significance (Hair et al., 2017). In PLS-SEM, the minimum sample size is established considering the number of directed arrows pointing to the latent variables composing the model and a minimum value of R square, with its corresponding P Value (Hair et al., 2017). In the case of the present research, the minimum suggested sample size is 90, considering that the theoretical model has two arrows pointing to latent variables and a desired 0,10 value for R square, at 5% probability of error (Hair et al., 2017).

Regarding the Data Analysis procedures, when data was collected and analyzed, the researcher found a different behavior on the relationship between the studied variables from what was initially expected. Initially, the model was tested with all 183 observations to analyze its results. It did not present statistically significant results. In order to determine what was preventing the model to be statistically significant, two procedures were performed. First, as Hair et al. (2017) recommended to work with data that does not present a high level of heterogeneity in PLS-SEM, a search for Outliers among the sample was conducted with the aid of SPSS software (IBM Corp, 2019). The Outliers found were eliminated from the sample. Second, an ANOVA mean comparison was conducted to identify such differences between them (Didelez, Pigeot, & Walter, 2006). The variables compared were company size, which was determined using the number of employees working for them, and their Sales Growth (denominated VD1(5)). Company size was reported by participant companies in the questionnaire as a controlled variable (denominated VC1). Company size according to the number of employees was established following the criteria of Colombian law 905 of 2004,

which classify them as follows: Micro-companies employ from 1 to 10 workers. Small companies employ from 11 to 50 workers, medium-size companies employ from 51 to 200 workers (Senado de la República de Colombia, 2019). By default, Large companies were classified to employ more than 200 workers. Micro-companies were given “1” for classification, Small companies were given “2”, Medium-size companies were given “3” and Large companies were given “4”. Results are shown on Table 5. As a result, significant differences were found between Micro-companies’ Sales Growth (1) comparing it with Medium-size (3) and Large (4) companies. No significant differences were encountered between Small (2), Medium-size (3) and Large (4) companies. As stated before, considering the level of heterogeneity that prevented the analyzed relationships to be statistically significant and also the recommendation made by Hair et al. (2017) to work with data that does not present significant differences, the researcher decided to group companies 2, 3 and 4, discarding 1 for the Data Analysis and relationship test of the proposed model. This coincides with what Lumpkin & Dess (1996) stated, as well as Miller (2011). As a result, from the 183 companies that completed the questionnaire, 90 were considered for the final data analysis. As explained before, this number of companies fits with the minimum required to carry out the data analysis in PLS-SEM, according to the model proposed (Hair et al., 2017).

Regarding the moderation effect proposed initially, it was tested with both 183 and 90 observations. Neither presented significant results. Consequently, the logical alternative was to test the model for a mediation effect. As stated by Kline (2011), in order to determine a mediator effect, it is necessary to determine that the direct effect is not statistically significant. In addition, as stated by Baron & Kenny (1986), a variable serves as a mediator when:

- (a) variations in levels of the independent variable significantly account for variations in the presumed mediator (i.e., Path a),
- (b) variations in the mediator significantly account for variations in the dependent variable (i.e., Path b), and
- (c) when Paths a and

b are controlled, a previously significant relation between the independent and dependent variables is no longer significant, with the strongest demonstration of mediation occurring when Path c is zero. In regard to the last condition we may envisage a continuum. When Path c is reduced to zero, we have strong evidence for a single, dominant mediator. If the residual Path c is not zero, this indicates the operation of multiple mediating factors (Baron & Kenny, 1986, p. 1176).

Table 5

ANOVA Multiple Comparisons

Dependent Variable: VD1(5) Bonferroni							
(I) VC1	(J) VC1	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
					Lower Bound	Upper Bound	
1	2	0.49	0.19	0.077	-0.03	1.02	
	3	0.69*	0.19	0.003	0.17	1.21	
	4	0.70*	0.19	0.003	0.17	1.23	
2	1	-0.49	0.19	0.077	-1.02	0.03	
	3	0.20	0.14	0.983	-0.18	0.58	
	4	0.20	0.14	0.975	-0.18	0.60	
3	1	-0.69*	0.19	0.003	-1.21	-0.17	
	2	-0.20	0.14	0.983	-0.58	0.18	
	4	0.01	0.14	1.000	-0.37	0.39	
4	1	-0.70*	0.19	0.003	-1.23	-0.17	
	2	-0.20	0.14	0.975	-0.60	0.18	
	3	-0.01	0.14	1.000	-0.39	0.37	

Note: *The mean difference is significant at the 0.05 level. Obtained from IBM Corp. (2019). IBM SPSS Statistics for Mac. Armonk, NY: IBM Corp. Retrieved from <https://www.ibm.com/products/spss-statistics>

Consequently, first partial mediation was tested on the model to determine what type of mediation was present on the model, utilizing Smart PLS 3 software (Ringle, Wende, & Becker, 2015). Initially, mediation was tested with KM as the mediating variable. The model did not present statistically significant results. Alternatively, EO was tested as a mediating variable, which in fact presented statistically significant results. Following Baron & Kenny (1986) statements, path (a) links Knowledge Management (KM) and Entrepreneurial Orientation (EO). Path (b) links EO with Sales Growth of five years (SG5). Finally, path (c)

links KM with SG5. Therefore, Partial mediation showed not to be significant, as path (c) coefficient is near zero (-0,024) and $p > 0,05$ (Hair et al., 2017). These results present what MacKinnon, Krull, and Lockwood (2000) referred to as an “inconsistent mediation” which may be defined as a suppression effect, which can be specified when the direct and mediated Path Coefficients of one variable on another have opposite signs (MacKinnon et al., 2000). Therefore, Full mediation will be presented as the final model. The model resulting for partial mediation is shown in Figure 4.

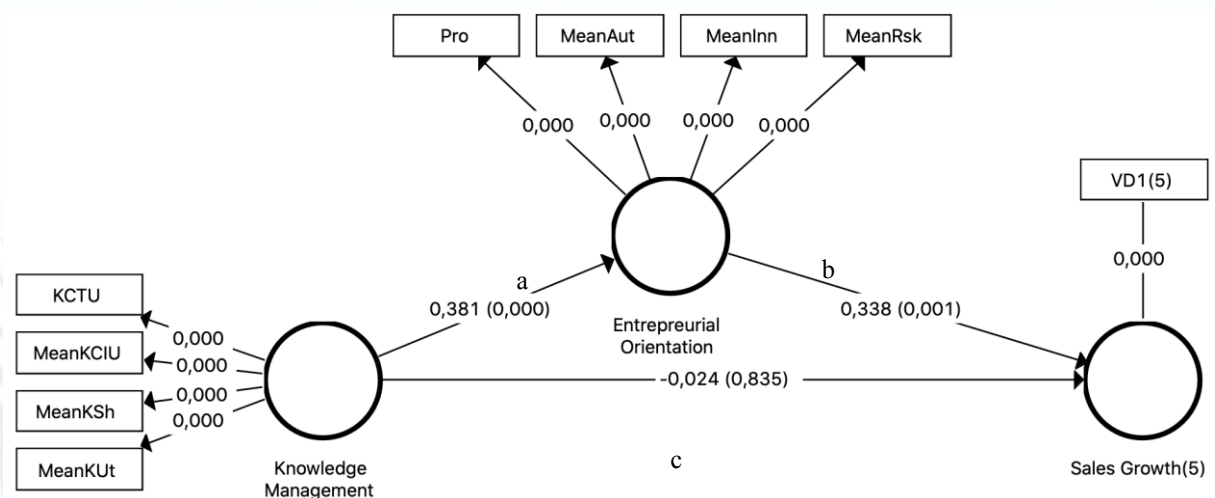


Figure 4 Resulting conceptual framework with partial mediation. *Note:* * p values are shown on items and on Path Coefficient's parenthesis. They are significant at 0.01 level.

Regarding the Full mediation model, data analysis procedures were conducted as follows. First, Factor loadings of all items included on the model were analyzed in order to discard those that presented items with loadings below 0.7 as recommended by Hair et al. (2017, 2019). As a rule of thumb, no more than 50% of each instrument's items should be eliminated from the model, as recommended by Nunnally (1967). Next, Parcels technique was applied for the resulting items, which refers to “a total score across a set of homogeneous items each with a Likert-type scale. Parcels are generally treated as continuous variables. The score reliability of parcels (total scores) tends to be greater than that for the individual items” (Kline, 2011). It is important to highlight that Parcels technique is more adequate for scales

where unidimensionality can be assumed (Kline, 2011), which is the case on the scales utilized for this research. Parcels technique was utilized to improve individual item's factor loadings, which, in some cases, did not meet the required 0.7 threshold. The procedure consists on grouping the scores of each item within a common dimension into a one single total score that becomes the item parcel (Kline, 2011). To group the individual scores of each dimension items, the researcher obtained the mean scores of the selected items combined of each dimension, with the aid of SPSS software (IBM Corp, 2019). Each item of EO and KM's scales were parceled by its corresponding dimension, without combining items from different scales, which was found to be a better approach (Hall, Snell, & Foust, 1999). Regarding the EO instrument, only items from Autonomy (Aut), Innovativeness (Inn), Risk Taking (Rsk) and Proactiveness (Pro) were included on the analyzed model. Competitive Aggressiveness was considered but none of its items presented factor loadings with values greater than 0.7, which is a necessary condition to expose convergent validity for the constructs analyzed (Hair et al., 2019). In addition, even when the item with the best factor loading (C11_1) from this dimension was included in the model, convergent validity for the constructs analyzed was compromised. The resulting Parceled variables were denominated for Autonomy (MeanAut), which grouped items belonging to this dimension, Innovativeness (MeanInn), which grouped items belonging to this dimension, and Risk Taking (MeanRsk), which grouped items belonging to this dimension. Items from Proactiveness (Pro) were not parceled, since only one item (C9_2) presented a Factor loading greater than the 0,7 threshold. Item C10_1, was eliminated as it presented a factor loading below 0.5. Table 6 shows detailed information of each item's parcels, items included and items eliminated.

Considering the KM scale, only Knowledge Utilization (KUt), Knowledge Sharing (KSh), Knowledge Creation by Task Understandings (KCTU) and Knowledge Creation by Information Understandings (KCIU) dimensions, were considered. The resulting parceled

variables were denominated for Knowledge Utilization (MeanKUt), Knowledge Sharing (MeanKSh), and Knowledge Creation by Information Understandings (MeanKCIU). Items from Knowledge Creation by Task Understandings (KCTU) were not parceled, since only one item (KM3_3) presented a Factor loading greater than the 0,7 threshold. Items KM3_1 and KM3_2, were eliminated as they presented factor loadings below 0.5. Table 7 shows detailed information of each item's parcels, items included and items eliminated. In addition, Figure 5 illustrates the resulting model for data analysis.

Table 6

Parcels Information for EO

Latent Variable	Item's Parcels	Factor Loadings	Items included	Factor Loadings	Items Eliminated	Factor Loadings
EO	MeanAut	0.73*	C8_1	0.58	C8_2	<0.5
			C9_1	0.54		
			C2_1	0.61	C1_1	<0.5
	MeanInn	0.79*	C2_2	0.73*	C2_3	<0.5
					C3_1	<0.5
	MeanRsk	0.83*	C4_1	0.77*		
			C5_1	0.72*		
			C6_1	0.74*		
	Pro	0.77*	C9_2	0.71*	C10_1	<0.5

Note: Resulting data obtained from Ringle, C. M., Wende, S., & Becker, J.-M. (2015). Smart PLS 3. Retrieved from <http://www.smartpls.com>. *Factors Loadings must be above 0.70 and lower than 0.90 to be considered according to Hair, J., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). Los Angeles, London, New Delhi, Singapore, Washington DC, Melbourne: Sage.

Findings

When this researched commenced, the Research Questions initially proposed were:

1. How is the relationship between EO and FP on Colombian companies?
2. Does KM moderate the relationship between EO and FP?

Nevertheless, considering the new hypotheses that arose during the data analysis process, the following questions surfaced:

3. How is the relationship between KM and FP on Colombian companies?

4. How is the relationship between KM, EO and FP?

In addition, the Hypothesis proposed were:

1. H_1 : There will be a positive relationship between EO and FP on Colombian companies
2. H_2 : KM practices moderate positively the relationship between EO and FP

Table 7

Parcels Information for KM

Latent Variable	Item's Parcels	Factor Loadings	Items included	Factor Loadings	Items Eliminated	Factor Loadings	
KM	MeanKUt	0.86*	KM1_2	0.73*	KM1_3	<0.5	
			KM1_5	0.78*	KM1_4	<0.5	
	MeanKSh	0.80*		KM2_1	0.77*	KM1_6	<0.5
			KM2_2	0.82*	KM2_3	<0.5	
			KM2_4	0.76*			
	MeanKCIU	0.84*		KM4_1	0.69*	KM4_2	<0.5
				KM4_3	0.73*		
				KM4_4	0.59		
	KCTU	0.78*		KM3_3	0.71*	KM3_1	<0.5
						KM3_2	<0.5

Note: Resulting data obtained from Ringle, C. M., Wende, S., & Becker, J.-M. (2015). Smart PLS 3. Retrieved from <http://www.smartpls.com>. *Factors Loadings must be above 0.70 and lower than 0.90 to be considered according to Hair, J., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). Los Angeles, London, New Delhi, Singapore, Washington DC, Melbourne: Sage.

However, when the data analysis process was carried out, the relationship between the proposed variables and the proposed moderating effect did not result to be statistically significant and some of the null hypotheses were accepted. Therefore, the researcher proceeded to validate an alternative model, estimating new relations that were theoretically plausible among the studied variables. As a result, three new hypotheses were tested on the final model, based on Literature Review. In terms of the relationship of KM and EO with FP, it has been found that EO moderates the relationship between Knowledge-based resources and FP (Wiklund & Shepherd, 2003), Knowledge Creation process acts as a mediator on the relationship between EO and FP (Li et al., 2009), EO partially mediates the KM-FP relationship (Abu-Bakar et al., 2014), KM and EO have been encountered to positively

influence FP, with KM fully mediating the relationship between EO and FP (Farooq & Vij, 2018), and EO and KM being positively correlated with FP (Hanif et al., 2018).

Consequently, as a contribution to the existing literature, this dissertation focused on finding the degree that EO-FP positive relationships also applies in the context of Colombian companies, and how KM influences this relationship on such context.

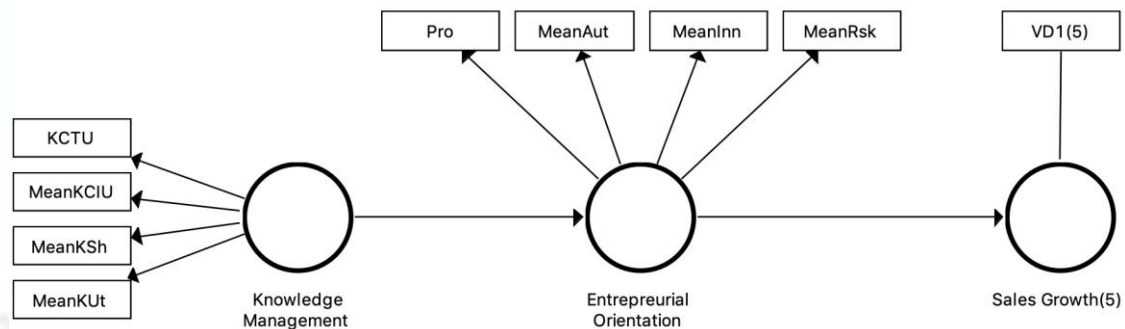


Figure 5 Resulting conceptual framework for data analysis

The results of the aforementioned studies showed a gap on the literature: No academic literature was found to date that have studied the mediating role of EO between the KM-FP relationship, which provide theoretical support of this Dissertation's hypotheses. In addition, Baron y Kenny (1986, p. 1176) defined a mediator variable as a variable that "explains how external physical events take on internal psychological significance. Whereas moderator variables specify when certain effects will hold, mediators speak to how or why such effects occur," which is the interest of the researcher to test this effect of EO in the KM-FP relationship. Therefore, the new proposed Hypothesis were:

1. H_1 : There is a significant relationship between KM and FP on Colombian companies.
2. H_2 : There is a significant relationship between EO and FP on Colombian companies.
3. H_3 : EO mediates the relationship between KM and FP on Colombian companies.

Considering these hypotheses, the next step was conducting the data analysis process with the final proposed model. Satisfactory findings were encountered. Regarding the reflective model measurements, first, all factor loadings for EO and KM surpassed the 0.70

threshold, which assures the item's reliability. Second, the model showed acceptable Internal consistency reliability. Cronbach Alpha (α) for EO and KM were higher than the 0.7 threshold and lower than 0.9, which shows that the model eludes item's redundancy, as recommended by Hair et al. (2017, 2019). Composite Reliability exceeded the 0.70 threshold for EO and KM, which evidences that the two constructs show adequate levels of Internal consistency reliability, according to Hair et al. (2017, 2019). Third, regarding Convergent validity, the Average Variance Extracted (AVE) surpassed the 0.5 threshold for EO and KM, which indicates that the two constructs show suitable levels of Convergent validity (Hair et al., 2017, 2019). Finally, in terms of Discriminant validity, the Heterotrait-Monotrait Ratios (HTMT) are lower than critical value 0.85. In addition, HTMT values (analyzed from the bootstrap confidence intervals) are significantly different from critical value 1, as Hair et al. (2017) suggested it should be. More detailed information about the reflective model measurements is shown in Table 8.

Regarding the Structural model's assessment, first, Collinearity was revised. VIF values were below the 3 threshold (Hair et al., 2019), showing no collinearity problems with the structural model. Second, R^2 values for the endogenous latent variables surpassed 0,10, which is considered to be weak, but proper (Hair et al., 2019). Although it can be considered to be far from the recommended 0,25 value, 0,10 has been accepted on the EO-FP academic context (Moreno & Casillas, 2008; Casillas & Moreno, 2010). Third, Q^2 are positive values (Hair et al., 2017). EO on SG5 presented a F^2 that exceeded the 0,02 threshold, showing a small but acceptable effect. Fourth, Path Coefficients (β) show that KM is an important driver of EO and EO of SG5 (Hair et al., 2017). The main results of the Structural model's assessment are shown in Figure 6 and in Table 9.

In terms of the model statistical significance, Path Coefficients' total effects showed to be statistically significant. It is important to highlight that the Specific indirect effect of KM-

>EO->SG5 is statistically significant and both their 97.5% and 2.5% confidence intervals are different from zero, which confirms the full mediation effect that EO plays in the KM-SG5 relationship (Hair et al., 2017).

Table 8

Measurement Model Reliability and Validity

Latent Variable	Items	Convergent Validity		Internal Consistency Reliability		Discriminant Validity	
		Loadings 0.70-0.90	AVE >0.50	Composite Reliability >0.70	Conbach's Alpha (α) 0.70-0.90	HTMT Ratios <0.85	HTMT Values ≠1
KM	MeanKUt	0.86					
	MeanKSh	0.81					
	MeanKCIU	0.86	0.67	0.89	0.84	0.46	Yes
	KCTU	0.78					
EO	KM3_3						
	MeanAut	0.7					
	MeanInn	0.78	0.62	0.87	0.79	0.36	Yes
	MeanRsk	0.79					
	Pro C9_2	0.76					

Note: Resulting data obtained from Ringle, C. M., Wende, S., & Becker, J.-M. (2015). Smart PLS 3. Retrieved from <http://www.smartpls.com>

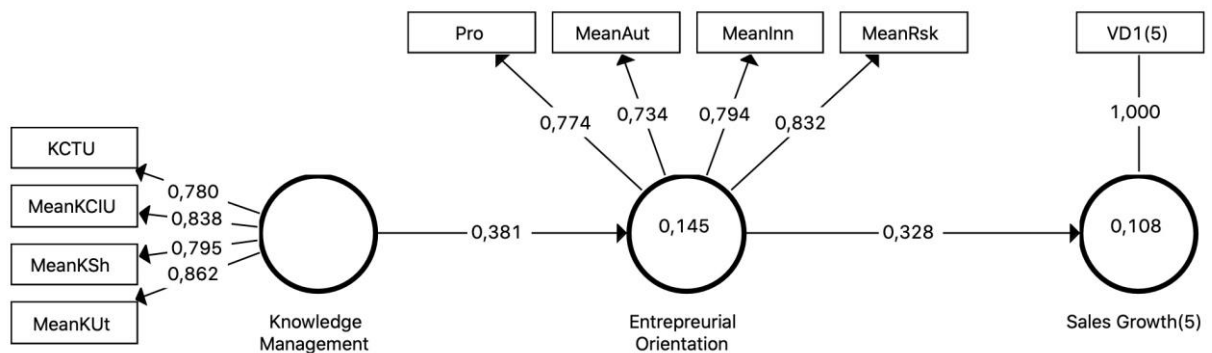


Figure 6 Resulting conceptual framework with results.

In addition, Construct Cross-validated Redundancy values are above zero, which supports the model's predictive relevance of the endogenous latent variables. Nonetheless, these values show small model's predictive accuracy (Hair et al., 2017, 2019). The main results of the Structural model measurements are shown in Table 9.

Considering the Hypothesis proposed on this research, it can be concluded that there is in fact a significant relationship between KM and FP on Colombian companies ($\beta=0,125$;

$\rho < 0,01$), (Confidence Intervals: 2.5%= 0.05, 97.5%=0.22), although, considering the full mediation effect that EO presented, this relationship is weak, so H_1 is supported. It is important to highlight that such relationship presents a positive effect. In addition, there is indeed a significant relationship between EO and FP on Colombian companies ($\beta=0,328$; $\rho < 0,01$), (Confidence Intervals: 2.5%= 0.13, 97.5%=0.46), so H_2 is supported. It is also important to highlight that such relationship presents a positive effect. Finally, EO does mediate the relationship between KM and FP on Colombian companies ($\rho < 0,01$) and presents a full mediation effect, as was demonstrated above, so H_3 is supported.

Table 9

Structural Model Assessment

Latent Variables	Inner VIF	R ²	F ²	Q ²	Path Coefficients Total effects (β)	Confidence Intervals (2,5%)	Confidence Intervals (97,5%)	ρ Values *
	<3	0.1><1	0.02><35	>0	-1 < β < 1 & $\neq 0$	$\neq 0$	$\neq 0$	$\rho < 0,05$
KM -> EO	1.00	0.15	0.17	0.08	0.38	0.21	0.56	0.000
EO -> SG5	1.00	0.11	0.12	0.09	0.33	0.13	0.46	0.000
KM -> SG5					0.13	0.05	0.22	0.006
KM->EO->SG5						0.05	0.22	0.006

Note: * ρ values are significant at 0,01 level. Resulting data obtained from Ringle, C. M., Wende, S., & Becker, J.-M. (2015). Smart PLS 3. Retrieved from <http://www.smartpls.com>

Summary

All factor loadings for EO and KM surpassed the 0.70 threshold. Cronbach Alpha (α) for EO and KM were higher than the 0.7 threshold and lower than 0.9. Composite Reliability exceeded the 0.70 threshold. AVE surpassed the 0.5 threshold for EO and KM. The Heterotrait-Monotrait Ratios (HTMT) are lower than critical value 0.85. In addition, HTMT values (analyzed from the bootstrap confidence intervals) are significantly different from critical value 1. VIF values were below the 3 threshold. R² values for the endogenous latent variables surpassed 0,10, which is considered to be weak but acceptable for the EO-FP academic context. Q² values are positive. EO on SG5 presented a F² that exceeded the 0,02

recommended threshold. Path Coefficients (β) show that KM is an important driver of EO and EO of SG5. values are above zero. Regarding the Hypothesis proposed on the research, it can be concluded that there is in fact a significant relationship between KM and FP on Colombian companies ($\beta=0,125$; $\rho<0,01$), (Confidence Intervals: 2.5%= 0.05, 97.5%=0.22), although, considering the full mediation effect that EO presented, this relationship is weak, so H_1 is supported. It is important to highlight that such relationship presents a positive effect. In addition, there is indeed a significant relationship between EO and FP on Colombian companies ($\beta=0,328$; $\rho<0,01$), (Confidence Intervals: 2.5%= 0.13, 97.5%=0.46), so H_2 is supported. It is also important to highlight that such relationship presents a positive effect. Finally, EO does mediate the relationship between KM and FP on Colombian companies ($\rho<0,01$) and presents a full mediation effect, as was demonstrated above, so H_3 is supported. Inferences about the data analysis will be drawn in the following chapter.

Chapter 5: Conclusions and Recommendations

The present dissertation was inspired by the question of the degree emerging market companies, in the context of Colombia, possess an EO that academic literature has identified as a mean to improve FP (Casillas & Moreno, 2010; Covin & Slevin, 1988; Li et al., 2009; Lumpkin & Dess, 2001; Moreno & Casillas, 2008). In addition, another question arises and it is the magnitude that emerging market companies, in the context of Colombia, are implementing KM practices that propel the effect of EO on FP. This quantitative, cross-sectional and correlational study aimed to identify the level of relationship between the EO and a FP present in emerging market companies, in the context of Colombia. In addition, to validate the degree on which KM practices influence the relationship of EO on FP in emerging market companies, in the context of Colombia. To achieve this purpose, a quantitative research was implemented, by conducting a survey to a sample of 90 companies that included questions to test to what extent they implement Knowledge Management practices, even though they may not know it.

Regarding the methodological approach, a Quantitative Research Method was more suitable for this research because the EO-FP relationship can be placed in a mature state, considering the archetypes or methodological fit suggested by Edmondson and Mcmanus (2007). The authors argue that for a mature theory a quantitative method is more commonly used, utilizing surveys for data collection, relying on existing constructs and measures and adding a new mechanism to an already supported theory (Edmondson & Mcmanus, 2007). This fit is precisely what the researches intended to achieve with the present research. It is cross-sectional, given the fact that the data collected only shows the sampled company's reality in a specific period of time (Babbie, 2010), which is adequate to achieve the purpose of this research. Hernandez-Sampieri et al. (2010) stated that the purpose of a correlational

research scope is to determine the level of relationship that two or more concepts, categories or variables present, in a given context. This was precisely the purpose of this research.

Considering the limitations present on this research, they are related to the access to information from Colombian companies, which depends on the rate of responsiveness, the quality of the information provided by them and the transparency in sharing sensitive information about key elements of their competitive advantage. The fact that the survey created to collect data was answered by a single respondent within the company surveyed, presents another limitation to this research. In addition, being a cross sectional study may only show the companies' state at a very specific period and not its evolution. Furthermore, the sample was not determined by a random method, since the researcher can only work with those companies willing to answer the given survey and that are part of Emis Benchmark (2019), Inexmoda (2019) and Proantioquia (2019) databases, which kindly accepted to distribute the questionnaire to conduct the present research. Based on the academic literature related to the field of study, a mediating relationship was proposed and tested, in which KM affects SG through EO. This model was analyzed using Smart PLS software (Ringle et al., 2015) on a sample of 90 companies.

Conclusions

This research has focused on the relationship of three constructs: Knowledge Management (KM), Entrepreneurial Orientation (EO) and FP, measured using Sales Growth (SG). Based on the academic literature related to the field of study, a mediating relationship was proposed and tested, in which KM affects SG through EO. This model was analyzed using Smart PLS software (Ringle et al., 2015) on a sample of 90 companies. The results and findings of this dissertation provide evidence that KM and EO are positive related to SG, but their relationship is not direct. This is a contribution to knowledge that may be useful from the practitioner's standpoint of this research endeavor, because it helps companies understand the

importance of having KM and EO practices to improve their performance, in the studied context. Also, the necessity of combining both practices, since KM practices alone do not have a significant effect on performance. In addition, testing and analyzing the KM and EO of such firms helps them understand and improve their entrepreneurial capabilities, because possessing the four dimensions of EO that were proven to be significant on a company, in the studied context, improves their performance. However, EO needs to be accompanied by KM practices to have such effect on the company's performance.

Regarding the theoretical standpoint, when studying the EO construct in the academic literature, as stated before, Martens et al. (2016) suggested that the main topics to consider for further research on this topic are “growth, learning, knowledge, resources, and capabilities” (Martens et al., 2016, p. 577). In addition, in terms of contexts of research on EO, the authors suggested to work on more research regarding “family firms, non-profit organizations, social contexts, the public sector, university, spin-off, firms in emerging and developing economies” (Martens et al., 2016, p. 577). As a result, this Dissertation can be regarded to be in line with such suggestions and therefore is a contribution to the further development of the EO-FP relationship, as it included the Knowledge Management variable, was developed in an Emerging Economy and it introduces the full mediating effect that EO presented on the KM-EO-FP relationship.

Furthermore, few researches have been found that study the EO-FP relationship on firms from Latin-American economies (Chen et al., 2016; Martin & Javalgi, 2016). This Research also sheds light on whether a company's EO that shows a positive relation to its Performance, will change such relation with the introduction of KM, which has not been studied in the Latin-American context. This contributes to the body of knowledge regarding the EO-FP relationship of companies from emerging markets. As concluded by Heredia-Pérez, Geldes, Kunc and Flores (2019), innovation processes in emerging economies show

different characteristics from those running in developed economies, which grants this research academic relevance to this Dissertation. The fact that EO mediates the KM-EO-FP relationship may be a particular case of firms in the context of Colombia, which may not be plausible in developed economies.

After analyzing the literature regarding the purpose of this dissertation, the following conclusions can be drawn: Innovation can be considered a fundamental internal capability that contributes to the generation of competitive advantage. Also, it fits to the definition of a Dynamic capability (Eisenhardt & Martin, 2000; Teece et al., 1997), which contributes to accomplishing the necessary adaptability that today's organizations require to maintain its competitive advantage. Also, a positive relationship has been found between OE and FP in different contexts (Choi & Williams, 2016; Covin & Slevin, 1988; Li et al., 2009; Lumpkin & Dess, 1996; Rauch, Wiklund, Lumpkin, & Frese, 2009; Real, Roldán, & Leal, 2014). KM practices present a positive influence on innovation capabilities (Adams & Lamont, 2003; Alegre et al, 2011; Cantner, et al. 2011; Pitt & MacVaugh, 2008), which contributes to its relationship to the generation of competitive advantage.

In terms of the relationship of KM and EO with FP, it has been found that EO moderates the relationship between Knowledge-based resources and FP (Wiklund & Shepherd, 2003), Knowledge Creation process acts as a mediator on the relationship between EO and FP (Li et al., 2009), EO partially mediates the KM-FP relationship (Abu-Bakar et al., 2014), KM and EO have been encountered to positively influence FP, with KM fully mediating the relationship between EO and FP (Farooq & Vij, 2018), and EO and KM being positively correlated with FP (Hanif et al., 2018). As a result, as a contribution to the existing literature, this dissertation focused on finding the degree that EO-FP positive relationships also applies in the context of Colombian companies, and how KM influences this relationship on such context.

After gathering and analyzing data from the sampled companies, the following conclusions can be drawn: The reflective model analyzed showed to be reliable and valid. All conditions regarding its Convergent and Discriminant Validity were met. The two constructs (KM and EO) show adequate levels of Internal consistency reliability regarding its Composite Reliability. Also, the model eludes item's redundancy. Concerning, the Structural Model assessment, it presented satisfactory results. Values for the endogenous latent variables surpassed 0,10, which is considered to be weak but accepted on the EO-FP academic context (Moreno & Casillas, 2008; Casillas & Moreno, 2010), at least to explain the intended influence of the variables (which was the purpose of this research) but not as a predictive model (which was not the purpose of this research).

Concerning collinearity issues, none were found with the structural model. Path Coefficients (β) show that KM is an important driver of EO and EO of SG. In addition, they showed to be statistically significant. The Specific indirect effect of KM->EO->SG is statistically significant and both its 2.5% and 97.5% confidence interval are different from zero, which confirms the full mediation effect that EO plays in the KM-SG relationship (Hair et al., 2017). The model's predictive relevance of the endogenous latent variables was supported. In summary, KM would not have an effect on SG if EO was not present, which indicates the importance of EO for KM to be relevant as a driver of Sales Growth. This should encourage managers from companies located in emerging economies to implement into their processes, if they have not done so yet, Knowledge Management practices that have a positive effect on their Sales Growth. However, these practices should be accompanied simultaneously with internal policies that promote an Entrepreneurial Orientation, that inspire change (if not present yet) or a consolidation of the company's culture towards such Orientation. When practices that encourage knowledge creation, sharing and utilization within the firm are

complemented with policies that promote behaviors such as autonomy, innovation, risk taking and proactiveness; sales growth could be improved.

Implications

It is important to consider that EO must be regarded as a crucial component in the strategy of the firm because of the impact that this concept presents on its competitive advantage (Wales, 2016). A company's degree of EO can be influenced by its employees, even at low levels, the company's external environment, the employee's roles and the functional area's objective, among others (Wales, 2016). EO should be identified as a "strategic dimension" that companies recurrently present in a given period of time, as a conduct (Covin & Slevin, 1991). In addition, in order for a company to show an EO, it ought to combine this orientation with managerial support to participate in activities that involve uncertainty in a given period of time (Covin & Lumpkin, 2011). Also, EO is not an orientation that remains constant over time; companies that possess it may show phases of high EO and phases of low EO, based on their strategic reactions to environmental conditions (Wales, Monsen, & McKelvie, 2011). As this study indicates, EO is important on the proposed relationship since the effect of KM on Sales Growth depends on it, as no support for partial mediation model was found, which means that EO plays a central role on such relationship. As a result, it can be concluded that EO needs to be embraced by both managers and subordinates simultaneously. Employees should to acquire EO as part of their organizational culture and managers should to promote it, measure it and implement policies that help sustain it over time, as well as make managerial decision showing high levels of EO. Furthermore, EO will diminish if proper measures are not placed to monitor it and take actions that assure its continuity over time.

Regarding KM practices, it is important to consider that this research included Knowledge Creation, Knowledge Sharing and Knowledge Utilization only, as dimensions of

KM, so the findings presented on this dissertation can only draw conclusions regarding such dimensions. As KM practices influence positively firm innovation performance (Alegre et al., 2011), companies can expect better innovation performance when they implement KM practices. In addition, KM practices effect is propelled when the concept KM dynamic capability is introduced. Such concept is defined as “an organization’s ability to reconfigure its KM practices – that is, integrating them in novel, specific and flexible ways to develop new KM systems when required” (Zahra & George, 2002; Tallman et al., 2004; Cepeda & Vera, 2007; Easterby-Smith & Prieto, 2008; cited by Alegre et al., 2011. p 458). This corroborates the importance of implementing policies to sustain this capability over time. However, this can be considered an opportunity for future studies to determine whether this can be confirmed in the context of this Dissertation.

This research utilized the EO dimensions proposed by Lumpkin & Dess (1996): Autonomy, Innovativeness, Risk Taking, Proactiveness, and Competitive Aggressiveness. If emphasis is placed on the definition of each dimension, managers can find guidance on what needs to be promoted on the company’s culture to propel EO within their organizations: Considering *Autonomy*, it refers to “the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion” (Lumpkin & Dess, 1996, p. 140). It is important then for managers to allow their employees to have certain degree of independency to generate and implement ideas to their tasks, as well as to promote this behavior throughout the organization. When employees have a certain degree of autonomy, processes could flow faster as they can make autonomous decisions to solve issues independently, Also, unique ideas can be generated to improve their tasks and even ideas for different ways of designing those processes could be produced.

Regarding *Innovativeness*, it is defined as “a firm's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products,

services, or technological processes” (Lumpkin & Dess, 1996, p. 142). Here, managers from emerging economies, especially in the context of Latinamerica, should pay careful attention on how their organization is generating new ideas, whether their employees are willing (or even allowed) to experiment new ways of organizing the company’s resources and how creative their proposals are. This is a behavior that is typically scarce in Latinamerican companies (Lederman et al., 2014) but it is important to be developed and sustained over time in companies’ culture. Employees could be a valuable source of novel ideas to generate new products or services that satisfy customer needs, since they are in permanent contact with them and know first-hand what they value or problems they face. In addition, innovation should not only be regarded as an activity to generate new products and services, but also to generate new ways to market, new processes and even new ways of organizing a firm (OECD & Eurostat, 2007). Here employees can play a crucial role.

Concerning *Risk-taking*, it refers to "the degree to which managers are willing to make large and risky resource commitments—i.e., those which have a reasonable chance of costly failures" (Miller & Friesen, 1978, p. 923; cited by Lumpkin & Dess, 1996, p. 144). On this concept, managers on the studied context have an important role to play. As Colombian culture tends to be risk-averse (Hofstede Insights, 2019), Risk will only be taken when leaders encourage it and motivate their teams to embrace it as an acceptable behavior. In addition, risk-taking is a necessary condition to achieve important levels of EO (Lumpkin & Dess, 1996). Undesired outcomes should not be penalized when reasonable risks were taken, but instead should be regarded as an opportunity to learn, as Google and Apple, as remarkable examples of innovative companies, promoted on their organizational culture (Fred, 2014).

Considering *Proactiveness*, it is defined as "acting in anticipation of future problems, needs, or changes" (Webster's Ninth New Collegiate Dictionary, 1991, p. 937; cited by Lumpkin & Dess, 1996, p. 146). Companies, through their managers, should identify the

developing trends that may modify their competitive landscape and take actions that allow them to identify possible opportunities, that may lead to innovations or adaptations of a changing competitive landscape, generating competitive advantage. Proactive behavior should also be encouraged among low level employees, so they can anticipate changes that can affect their tasks or adaptations they can implement to improve the way they perform their daily activities.

Lastly, *Competitive Aggressiveness* refers to “a firm's propensity to directly and intensely challenge its competitors to achieve entry or improve position, that is, to outperform industry rivals in the marketplace” (Lumpkin & Dess, 1996, p. 148). This concept invites companies to foresee possible threats and implement changes to adapt to them. These concepts should be part of the company's culture today and measures should be placed to ensure it is maintained through time. Although this dimension did not present significant results on this research, it should not be ignored in the Colombian context because it is also important to guarantee the company's survival on hostile competitive landscapes.

It is important to highlight that, as found on this research, KM practices must be accompanied with an EO. Otherwise, without EO, KM may not have any effect on a company's Sales Growth, since it needs EO to mediate in such relationship. It is not enough to possess Knowledge Creation, Knowledge Sharing and Knowledge Utilization practices within the organization, without complementing them with Autonomy, Innovativeness, Risk Taking and Proactiveness behaviors, to gain an increase in its Sales Growth. If they are implemented together, the company may obtain an improvement on their Sales Growth over a period of time, since they are positively related. Also, KM as well as EO need to be continuously fed.

Recommendations

After carrying out this research endeavor, the following recommendations for further studies can be made: the study can be improved when it includes data gathered from other cities in Colombia. One of the limitations present on this research is that the data collected is mainly from Medellin's companies. Also, the small sample size of 90 observations may present another limitation of this research. Introducing data from other contexts within Colombia and augmenting the sample size can give interesting insights about the analyzed relationship. This is true as well when similar studies from different countries in Latinamerica will be carried out and comparative analyses can be performed with this research in the Colombian context. In addition, other measures of performance can improve this research. Although it was attempted, data collected regarding companies' profit growth and Market share did not yield significant results. However, different measurements of performance can also be attempted. Moreover, the other internal dimensions of the KMPI may be included on further research to have a broader perspective of this construct and its relationship with EO-FP. Also conducting longitudinal, as well as qualitative studies may also contribute to further understanding of the KM-EO-FP relationship on emerging economies' contexts.

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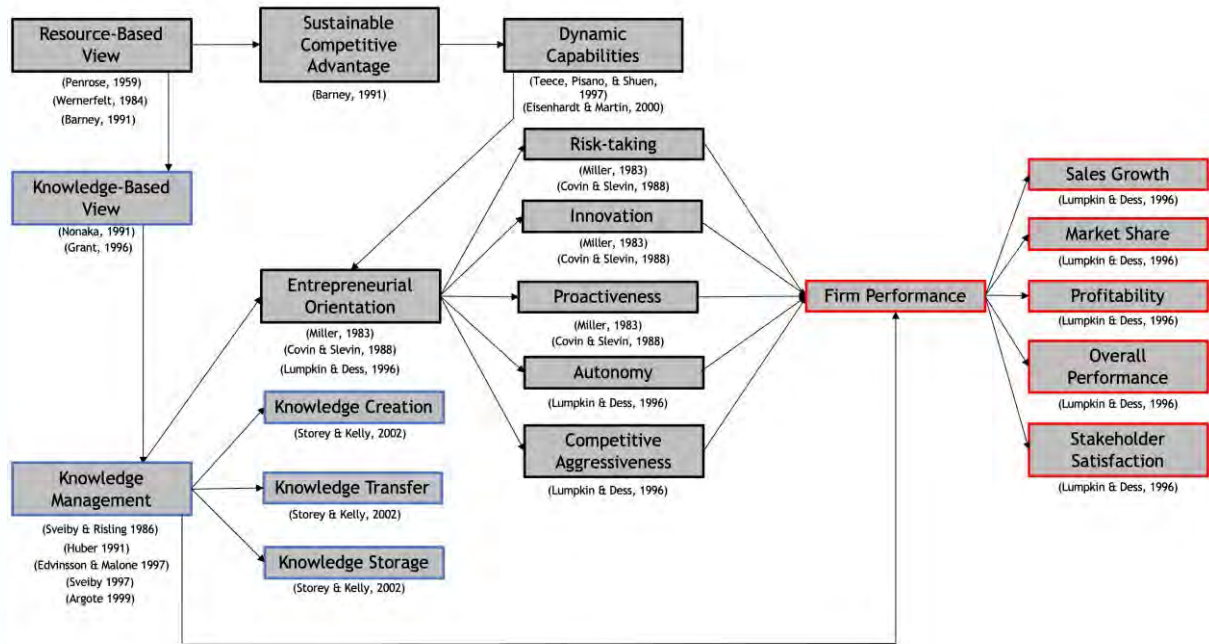
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Appendix A Literature Review Map




Appendix B Permission to use Questionnaire

Message

Re: Escala de Lumpkin "Entrepreneurial Orientation" - Bandeja de entrada

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Re: Escala de Lumpkin "Entrepreneurial Orientation"

 ammoreno@us.es <ammoreno@us.es>
miércoles, 22 de junio de 2016, 12:36 a.m.
To: Camilo Franco Ruiz
Cc: Casillas@us.es; Francisco J Acedo
📎 Escala OE Lumpkin.docx (215,8 KB) [Preview](#)

← You replied to this message on 22/06/16 10:11 a.m. [Show Reply](#)

Estimado Camilo,

En efecto, la escala de Lumpkin la utilicé en mi tesis doctoral y posteriormente en el artículo que comenta. Como es difícil acceder a ella, se la envío adjunta. En efecto, esta escala es más amplia ya que incorpora más dimensiones que la de Covin y Stevin.

Espero que le sea de utilidad.

Un saludo

Ana M Moreno


El 21/06/2016 18:56, Camilo Franco Ruiz escribió:

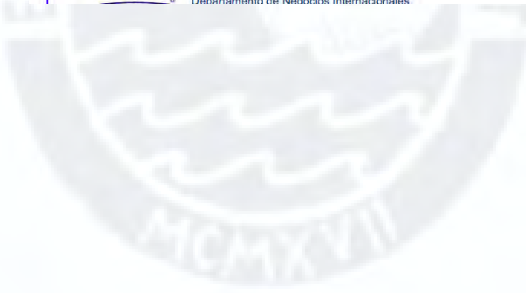

Buenos días profesores Casillas y Moreno.

Primero que todo, permítanme presentarme. Mi nombre es Camilo Franco Ruiz, soy profesor del Departamento de Negocios Internacionales de la Universidad EAFIT, ubicada en Medellín, Colombia. Actualmente me encuentro realizando mis estudios doctorales con enfoque en Emprendimiento Internacional. Para dicho fin, quisiera utilizar la escala desarrollada por Lumpkin (1998), teniendo en cuenta que he llegado a la conclusión que es más completa que ENTRESCALE, desarrollada por Covin and Stevin (1989). Dicha escala fue utilizada por ustedes en su artículo "Entrepreneurial Orientation and Growth of SMEs- A Causal Model". Teniendo en cuenta las características de su investigación, asumo que ustedes la tradujeron al castellano para aplicarla a las empresas de la región de Andalucía ¿Sería posible que me indicaran cómo puedo acceder a dicha versión en Castellano?

De antemano le agradezco por su atención y colaboración.

Saludos cordiales,

 **UNIVERSIDAD EAFIT** Camilo Franco-Ruiz
Coordinador Área Comercio Exterior
Departamento de Negocios Internacionales

Appendix C Entrepreneurial Orientation Questionnaire

Orientación emprendedora de su empresa

A continuación, se le plantea una serie de frases contrapuestas. Indique (con un círculo) en qué medida está más de acuerdo con la frase de la derecha o la izquierda:

<i>En general, los directivos de mi empresa promueven</i>			
C1	Las actividades de marketing de los productos y servicios existentes, ya probados	1 2 3 4 5 6 7	Las actividades de I+D, el liderazgo tecnológico y las innovaciones
<i>¿Cuántas nuevas líneas de producto o servicios ha comercializado su empresa en los últimos cinco años?</i>			
C2	Ninguna	1 2 3 4 5 6 7	Muchas
C3	Los cambios en las líneas de producto / servicio han sido de carácter pequeño	1 2 3 4 5 6 7	Los cambios en las líneas de producto / servicio han sido de carácter radical
C4	Mi empresa prefiere diseñar sus propios procesos y métodos de producción	1 2 3 4 5 6 7	Mi empresa prefiere adaptar los métodos y técnicas que otros han desarrollado y probado
<i>En general, los directivos de mi empresa prefieren</i>			
C5	Experimentar enfoques originales en la resolución de problemas	1 2 3 4 5 6 7	Los métodos ya empleados por otras empresas que para resolver sus problemas
<i>En general, los directivos de mi empresa son...</i>			
C6	Muy proclives a los proyectos de bajo riesgo (con tasas de rentabilidad seguras y normales)	1 2 3 4 5 6 7	Muy proclives a proyectos de alto riesgo (capaces de obtener rentabilidades muy elevadas)
<i>En general, los directivos de mi empresa creen que...</i>			
C7	Debido a las características del entorno, lo mejor es explorarlo gradualmente mediante un comportamiento cuidadoso e incremental	1 2 3 4 5 6 7	Debido a la naturaleza del entorno, son necesarios actos valientes y de gran alcance, con el fin de alcanzar los objetivos de la empresa
<i>Mi empresa, cuando se enfrenta a situaciones en las que hay que tomar decisiones que implican incertidumbre...</i>			
C8	Suele adoptar normalmente una postura cauta de “esperar y ver”, con el fin de evitar al máximo adoptar decisiones costosas	1 2 3 4 5 6 7	Suele adoptar normalmente una postura agresiva y valiente con el fin de aprovechar al máximo las oportunidades
<i>En general, los directivos de mi empresa, ...</i>			
C9	Prefieren estudiar un problema antes de destinar recursos a solucionarlo	1 2 3 4 5 6 7	Son rápidos en asignar recursos para las posibles soluciones a los problemas
C10	Intercambian información con otras empresas (incluso con competidores directos), lo que es de gran utilidad para la empresa	1 2 3 4 5 6 7	Evitan todo contacto con los competidores, ya que podría ser perjudicial para la empresa
<i>Mi empresa, en las relaciones con los competidores, ...</i>			
C10	Normalmente responde a las	1 2 3 4 5 6	Normalmente inicia acciones a las

	acciones que inician los competidores	7					que responden los competidores	
C11	Es muy raro que sea la primera en introducir nuevos productos, servicios, técnicas de gestión, etc.	1	2	3	4	5	6	Es a menudo la primera en introducir nuevos productos, servicios, técnicas de gestión, etc.
C12	<i>En general, los directivos de mi empresa tienen ...</i>							
C13	Una fuerte tendencia a "seguir al líder" en la introducción de nuevos productos e ideas	1	2	3	4	5	6	Una fuerte tendencia a ir por delante de otros competidores en la introducción de nuevos productos e ideas
	<i>En las relaciones con los competidores, mi empresa ...</i>							
C14	Normalmente trata de evitar el enfrentamiento, prefiriendo una postura de "vivir y dejar vivir"	1	2	3	4	5	6	Normalmente adopta una postura muy competitiva de anulación de los competidores
C15	Es muy agresiva e intensamente competitiva	1	2	3	4	5	6	No dedica un esfuerzo especial para arrebatarse negocio a sus competidores
C16	Es muy veloz en explotar oportunidades si piensa que pueden hacerle ganar mucho dinero	1	2	3	4	5	6	Prefiere explorar con cuidado las nuevas oportunidades antes de tratar de explotarlas

Appendix D Knowledge Management Questionnaire

Knowledge Management Performance Index (KMPI)	
Please select only one number from the seven options available where 1 (strongly disagree) to 4 (neutral) to 7 (strongly agree), taking into account the reality of your Company:	
<i>Knowledge utilization</i>	
KM1	There are research and educational programs 1 2 3 4 5 6 7
KM2	Team work is promoted by utilizing organization-wide information and knowledge 1 2 3 4 5 6 7
KM3	EDI is extensively used to facilitate processing tasks 1 2 3 4 5 6 7
KM4	There exist incentive and benefit policies for new idea suggestions in utilizing existing knowledge 1 2 3 4 5 6 7
KM5	There exists a culture encouraging knowledge sharing 1 2 3 4 5 6 7
KM6	Work flow diagrams are required and used in performing tasks 1 2 3 4 5 6 7
<i>Knowledge sharing</i>	
KM7	We share information and knowledge necessary for the tasks 1 2 3 4 5 6 7
KM8	We improve task efficiency by sharing information and knowledge 1 2 3 4 5 6 7

KM9	We developed information systems, like intranet and electronic bulletin boards, to share information and knowledge 1 2 3 4 5 6 7
KM10	We promote sharing of information and knowledge with other teams 1 2 3 4 5 6 7
<i>Knowledge creation by task understandings</i>	
KM11	I often use an electronic bulletin board to analyze tasks 1 2 3 4 5 6 7
KM12	My predecessor adequately introduced me to my tasks 1 2 3 4 5 6 7
KM13	I fully understand the core knowledge necessary for my tasks 1 2 3 4 5 6 7
<i>Knowledge creation by task understandings</i>	
KM14	I obtain useful information and suggestions from brainstorming meetings without spending too much time 1 2 3 4 5 6 7
KM15	I search information for tasks from various knowledge sources administered by the organization 1 2 3 4 5 6 7
KM16	I understand computer programs needed to perform the tasks and use them well 1 2 3 4 5 6 7
KM17	I am ready to accept new knowledge and apply it to my tasks when necessary 1 2 3 4 5 6 7