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NEW BUSINESS DYNAMICS AND AGGRESSIVENESS BETWEEN COMPETITORS

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Dissertação apresentada à escola de Administração de Empresas de São Paulo da Fundação Getulio Vargas, como requisito para obtenção do título de Mestre em Administração de Empresas.

Linha de pesquisa: Estratégia

Orientador: Prof. Dr. Paulo Arvate

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Este trabalho está dedicado a minha familia por estar sempre presente y apoiar-me em todos os momentos.

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Change brings opportunities. On the other hand, change can be confusing.

(Michael Porter)

ABSTRACT

Recent work has focused on analysing whether competitive advantages can be sustainable in a hypercompetitive context. Extant literature, which analysed emerging economies, found that the development of the institutional context contributes to creating hypercompetitive conditions. In this study was recognized the importance of these researches to the strategic management field but instead of focusing the attention on emerging countries, was considered necessary to take a broader spectrum as an object of study with countries that differ in their characteristics.

This research also used a different methodology from the studies taken as a reference as the one made by Hermelo e Vassolo (2010) that focus its attention in developing countries, analysing the effect of institutions and hypercompetitive environments in the sustainability of competitive advantages. This research complemented those previous researches including data from firms in both, developing and developed countries to determine the difference in persistent superior economic performance over time between them, with the idea of showing how the environment is not only a key factor but also a main component in the development of competitive advantages. Using the Kolmogorov Smirnov test and the Propensity score matching to reduce bias, issues of sustainable competitive advantage and the effects of the institutional context in developed and developing countries was addressed, being careful with the comparison since their given differences might bring erroneous results.

The empirical results support the proposition that there is a significant difference in superior economic performance and persistent superior economic performance sustainability between firms in countries with economic differences. Considering that this study focus on institutions and recognizing the importance they have in society and

economic growth, studying them can help to determine how superior economic performance and persistent superior economic performance could be achieved with institution stability and favorable macroeconomic factors.

An important contribution of this work is that it uses other theories related to the competitive advantages and connects the macroeconomic and institutional environment, with the purpose of comparing countries with different realities by statistical tests, giving answer to the formulated hypothesis.

RESUMO

Pesquisas recentes tem se concentrado em analisar se as vantagens competitivas podem ser sustentáveis em um contexto hipercompetitivo. Literatura existente que tem analisado economias emergentes descobriu que o desenvolvimento do contexto institucional contribui para a criação de condições hipercompetitivas. Reconhecendo a importância dessas pesquisas no campo da gestão estratégica, mas ao invés de concentrar a atenção em países emergentes, este trabalho considera crucial ter um espectro mais amplo como objeto de estudo com países que diferem em suas características.

Nesta pesquisa foi usada uma metodologia diferente dos estudos que foram tomados como referência para o trabalho, como a feita por Hermelo e Vassolo (2010) que centraram a sua atenção nos países em desenvolvimento analisando o efeito das instituições e os ambientes hipercompetitivos na sustentabilidade das vantagens competitivas. As pesquisas anteriores foram complementadas incluindo dados de empresas em países em desenvolvimento e desenvolvidos, isto para determinar a diferença de desempenho econômico superior persistente ao longo do tempo entre eles com a ideia de mostrar como o meio ambiente não é apenas um fator-chave, mas também um componente principal no desenvolvimento de vantagens competitivas. Usando o test Kolmogorov Smirnov e o Propensity Score Matching para reduzir viés, as questões de vantagem competitiva sustentável e os efeitos do contexto institucional foram analisados, tomando cuidado com a comparação uma vez que as suas diferenças podem trazer resultados incorretos.

Os resultados empíricos sustentam a tese de que há uma diferença significativa no desempenho econômico superior e sua sustentabilidade entre as empresas em países com essas diferenças. Considerando-se que o foco de estudo está nas instituições e reconhecendo a importância que elas têm na sociedade e crescimento econômico,

estudá-las pode nos ajudar a determinar como o desempenho economico superior e o desempenho economico superior persistente poderiam ser alcançados com a estabilidade das instituições e fatores macroeconômicos favoráveis.

Uma contribuição importante deste trabalho é que ele usa outras teorias relacionadas com as vantagens competitivas e as relaciona com o entorno macroeconomico e institucional com o proposito de comparar países com realidades muito diferentes através de testes estatísticos que dão uma resposta à hipótese formulada.

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1. INTRODUCTION

Will sustainability of competitive advantage be influenced by the condition of a firm being in a developed or developing country? There are factors inherent to the economic situation of the countries that determine the attainment and sustainability of competitive advantages?

For decades, differences in business performance have been the main subject in strategic management studies. However, the persistence of this performance has won importance recently and the analysis of this condition considering the environment of the companies are part of the recent studies of strategy, generating different questions that still need to be resolved.

One fundamental question in strategic management research addresses important issues that are related to the competition among firms with different natures, where the field have tried to find good explanations of why these differences between firms exist. Considering that nowadays the world have shrinks and the competition has intensified with the years, environments now are more complex and became increasingly difficult for firms to survive or to sustain their competitive advantages (Rumelt, Schendel, and Teece, 1994). Therefore, it is important to consider that there are external factors that help for better understanding of the difference in firms' performance, such as macroeconomic, political, social and institutional conditions that may vary depending on a country's context. One of the central implications of this turbulent context is that there is great rivalry between competitors in today's market, which requires firms to change constantly and further develop their processes to improve productivity, performance and to secure competitive advantages.

Competitive advantage, in turn, is a key concept in strategic management, defined as the implementation of a strategy not being executed by other firms, facilitating the reduction of costs, the exploitation of market opportunities, and neutralization of competitive threats (Barney, 1991).

Along the years and with the progress of studies in competitive advantage, there have been other ways of referring to this term for reasons such as improving the understanding of the theory or supplement its definition with other concepts. Few previous empirical studies have directly and systematically documented the incidence or prevalence of persistent superior economic performance as a form of sustainable competitive advantage (Wiggins and Ruefli, 2002). Nonetheless, analysing higher economic return patterns is a longstanding tradition because of their implications for understanding the origins and sustainability of competitive advantage (D' Aveni and Thomas, 2004; Ruefli and Wiggins, 2002). Consistent with earlier studies, it's possible to argue that the language and logic of economics have enabled further development of these studies, which has contributed to enriching theories and helped resolving some general interest questions related to strategy (Rumelt, Schendel and Teece, 1991).

There are currently several theories of competition in dynamic markets which have led to several hypotheses and debates on the existence of a sustainable competitive advantage. An example of this type of research is the work made by Hermelo and Vassolo (2010). The researchers tested if it is more difficult to achieve sustainable competitive advantages today than in the past, and how institutions affect the process of achieving competitive advantage in emerging countries. They also proposed that the development of the institutional context helps creating conditions for hypercompetition in developing countries, based on the answer to the question: Is the world entering an age of temporary advantage? The general purpose of their research was to explore whether competitive advantages are becoming less sustainable in emerging economies, considering that the answer to this question involves different elements of importance as institutions, resources and competitive advantages.

It's important to consider that *competitive forces* may play an important role in determining the difference between performances of firms. Limiting forces that drive return back to competitive levels is fundamental to achieving superior business performance (Jacobsen, 1988). These competitive forces can vary according to the condition of the country where the firm is established. Developing countries for example, have weaker macroeconomic environments, compared to developed countries, where different problems repeatedly emerge in consequence of the fragility of their institutions. Scully (1988) considered that the institutional framework is not only a significant explanation of the intercountry variation in the growth rate of real per capita gross domestic product, but a phenomenon of considerable magnitude. According to him, there is an important effect of the institutional framework for economic growth and economy efficiency arguing that institutions set the parameters of rights in a society, and define what resources can be owned, who can own them, and how they can be employed.

This study considered this, and built on the study by Hemelo and Vassolo (2010) by including data from firms not only in developing countries, but also in developed ones, in order to determine the difference in persistent superior economic performance over time in different economies. This study also supports that one important element in competitive advantage studies is related to the environment in which firms operate. Starbuck (1993) suggests that using averages makes social science blind to individuality, peculiarity, excellence, complexity, interaction, and subcultures. According to him, all people, groups, organizations, and societies are peculiar and unique, and seeing how they differ is as important, as seeing how different they are. However, it's possible that when using measures of superior performance in firms located in developed and developing countries, the environment became a determining factor that can aid or prevent a firm from reaching superior economic performance. An example of this is explained by Ghemewat (2005), who claims that geographic distinctions have not been thrown away by the rise of globalization because these factors are very important to explain the difference in the performance of companies; and have become increasingly important. Furthermore, Eisenhardt (2002) claims that globalization is the key driver of the new real economy, which recently has created a new economic playing field where it is difficult to engage in competition, battle dynamics and temporal strategies.

Generally, there are variations between the research referred to before and this study. The main difference is in the sample, while the former study sampled developing countries; this research also included developed countries. The choice of both types of economies stems from several reasons. First, in line with the central purpose of the research, find differences and similarities between firms in different economic, political, social and institutional conditions. Second, to analyze how these variables directly affect firms' performance reflected on their competitive advantages. And third, because of the relevance and impact of this topic in strategic management research.

Another important difference is the period that is going to be analyzed. They took the period from 1990 to 2006, and this work studied the period from 1995 to 2011. This is a significant difference because recent economic crises, economic growth and several economic, politic and social changes in countries have played an important role that should be analyzed. Finally, the methodology differs from the one applied by Hermelo and Vassolo (2010) because even though in this study economic performance is operationalized as ROA, known as the economic return on the total investment regardless of the form of financing and that the preceding study also uses this measure considering that it is frequently used in performance studies and it is accepted in the literature.

As a second part, as we explained before, we wanted to use as a basis the Hermelo e Vassolo work, Institutional development and hypercompetition in emerging economies; in this article, they used ROA as the performance measure to define superior economic performance.

Finally, we used the ROA as a operationalization of competitive advantage, as we think that exist a correlation between this measure variables that show us that using ROA is a sufficient form to operationalize competitive advantage and superior economic performance. We took Catapan et. al (2012) as an example of the relationship that exists between this two variables EBITDA and ROA. In their research, their principal objective was to know if there were any significant statistical differences between EBITDA/ Assets, EBITDA/PL, ROA and ROE in Brazilian Electric Companies. For this study, to standardize the EBITDA of companies, they defined that it's possible to divide it by total assets or equity in order to make comparisons between companies along history

In this research was introduced an additional analysis after the Kolmogorov-Smirnov test, which consists of estimating the Average Treatment effect on the Treated (ATT) by propensity score matching with the purpose of reducing bias estimating the effect of treatment on behalf of the covariates. The benefit of using this technique is that it gives importance to the effect of observable characteristics and helps to calculate the probability of a unit to receive a treatment, given the dataset and the observable covariates.

This study contributes to furthering previous theoretical considerations about competitive advantage, particularly by shedding light on the competitive context in developed and developing countries. Additionally, it has a methodological contribution, because it captures drivers of superior economic performance, not only in an environment restricted to the variable itself, but in an environment where the observable factors that might influence this result are statistically equivalent, using a common statistical support (The Propensity Score Technique). Hence, this work tries to overcome the methodological limitation that prevents researches from directly comparing firms in developed and developing countries, for this may lead to a selection bias in consequence of the variables that makes countries differ.

This work attaches great importance to the correction of bias as was identified that it could be one of the major limitations of the research. One important variable and further an example of the importance to consider this correction are the economic protectionist policies. Companies in developed economies are usually less protected than firms in developing economies, where governments have opted for import substitution and have decided to protect their national industries from competition from foreign companies. According to Kyung-Hoon (2013), major emerging economies are trying persistently to foster growth, and have increased protectionism policies to do so. He also highlights that the World Trade Organization (WTO) cautioned in 2012 that “protectionism has slid to dangerous levels for the first time since the global financial crisis of 2008”, and that the Global Trade Net database of restrictions on international commerce, found out that Russia has led the emerging economies in trade protectionism, followed by Argentina and India.

In his analysis, Kyung-Hoon (2013) also shows that the United States and China have led the *buy national* trend around the world. Additionally, shows that in countries like Brazil, beleaguered manufacturers have been supported through the *Brasil Maior plan*, a package of industrial policies launched in 2011, and a year after the *Buy Brazil* policy went into effect. As a result, concludes his analysis by saying that the recent economic slowdown has paved the way for protectionism in emerging countries and that this trend will likely continue for some time, because developing countries feel they need to stimulate domestic products in order to advance their manufacturing industry in the mid to long term.

However, Milner and Kubota (2005) proposed that developing countries that long pursued protectionism should liberalize their trade regimes, as the movement towards democracy opens up new avenues for free trade. Trade liberalization in a protected economy brings income losses to individuals with scarce factor assets and income gains to individuals with abundant factor assets. In addition, the pressures generating protectionist actions in a number of emerging markets are in part a result of macroeconomic defensive policies implemented by other countries (Hoekman, 2012). On the other hand, Baker (2005) defends the idea that developing nations possess a relative abundance of unskilled labor and land, so protectionism during the import-substitution years favored the limited capital and skilled labor in such economies.

Because of these issues and with a view of protectionism as a defensive measure, a little competitiveness can lead to statistical error in the comparison between developed and developing countries. Consequently, this may lead to an inaccurate and non-generalizable conclusion in this study. The potential bias is going to be corrected using the Propensity Score Matching, a method that allows reducing the matching problem, calculating the probability of a unit in the sample receiving treatment, given a complete set of variables.

Withal, the likelihood of a company being economically superior is not expected to vary significantly after the correction of bias because during the period analyzed promarket reforms helped developing countries achieve stability (Cazurra & Dau, 2009) and they opened their markets, launching most of the firms that later became MNEs in the 1990s in Latin America (Cazurra, 2008). The sample focuses on the years between 1995 and 2011; perhaps, if the years before 1990 were used, the difference between probabilities in the correction of bias could be significant.

Since there is a gap of knowledge that needs to be studied in relation to competitive advantage and the differences between developed and developing countries considering environmental variables that directly influence the performance of firms, as institutions and macroeconomic conditions; this work pretends to establish the difference in the sustainability of competitive advantage between countries with different realities, finding the probability of a firm to achieve superior economic performance (SEP) or persistent superior economic performance (PSEP), and analyze if this responds to an influence on the environment in which they develop.

The following section covers the theoretical background of the research and the hypothesis tested, followed by an explanation of the methodology. Finally, main results of the study are going to be presented and some conclusions and references used to support this research.

2. LITERATURE REVIEW

The definition of competitive advantage adopted in this study is the one coined by Besanko (1996), in which the firm has a competitive advantage in a market if it earns a higher rate of economic profit compared to the average firm in the industry. In this case, the economic profit made by a firm depends on the economic attractiveness of its market and on the economic value created by the firm. Moreover, the firm has a competitive advantage only if it can create more economic value than its competitors.

On the other hand, the definition for the research of sustainable competitive advantage also takes into account Porter's (1985) concept, which indicates that the use of the word sustainable necessarily implies a long-term concept. Thus, sustainable competitive advantage performance is defined as statistically significant, above average, compared to a reference set, such as a company that endures over a long period of ten years or more, similar to Wiggins and Ruefli (2002). Although, this definition of sustained competitive advantage has been also discussed; Wenders (1971) argues that persistence is a relative term, while Barney (1991) said that it was not a period of calendar time that defines the existence of a sustained competitive advantage, but the inability of current and potential competitors to duplicate that strategy that makes a competitive advantage sustainable. Sustained competitive advantage cannot be expected to last forever (Hirshleifer, 1980).

For this research, concepts of competitive advantage are in line with the definition given by Besanko (1986), which is why was decided to adopt it as the official definition for the development of this work. However, was placed special emphasis on saying that within this concept it's important to consider the environment and all variables found in it to analyze performance. In terms of sustainability, and remembering that one purpose is to determine the difference in the sustainability of competitive advantages in time between developed and developing countries, the definition given by Porter was adopted because first, he proposes a measure of SEP of 5 years of ROA above de mean of the other firms, and 10 years for PSEP, concept adopted by Hermelo and Vassolo (2010). Second, because it's considered as a measure of time appropriate for these two variables. It is important to make clear that within the concept of competitive advantage and sustainability, it's possible to reach sustainable advantages over time, in contrast to what hypercompetitive theory says.

2.1 Competitive advantage theories

Several perspectives have contributed to explaining sustainable competitive advantage, thereby, generating several similar and opposite theories. On the one hand, the classical economic industrial organization (IO) theory defined sustainable competitive advantage as a type of competitive advantage that is difficult to imitate, thus ensuring firms' persistent superior economic performance (Porter, 1985). On the other hand, with a more static approach, the Resource Based View of the firm theory focused on how firms manage and strategically use their resources to explain the variability in performance among firms (Barney, 1991), considering that resources should be valuable, rare, inimitable and non-substitutable to generate and maintain competitive advantages. In contrast to Porter theories and his five forces model, Penrose (1959) proposed that a company is a set of production resources that can only contribute to a competitive position when they are operated in such a manner that their potentially valuable services are available to the company.

Penrose's vision was the starting point for extensive research on the influence of resources on competitive advantage. However, businesses today operate in a complex environment where different factors influence the actions of the company and hence its performance. Bourgeois (1985) for example, asserted that the central tenet of the strategy is the combination of the conditions of the environment and resource management and organizational skills. The RBV argues that to generate sustainable competitive advantage, a resource must provide economic value and should be scarce, difficult to imitate, non-replaceable and not easily obtained in factor markets (Barney, 1991; Dierickx & Cool, 1989). Although this theory assumes that the resources and capabilities of a company are the main causes of competitive advantage and economic performance, it is important to consider the environment to analyze the competitive advantage. Thus, a country with a turbulent environment, defined as the instability of their institutions and the risk that this implies, will present major difficulties for generating sustainable competitive advantage based on your resources, unlike what happens in a developed country. Firm performance depends on strategic position, the sustainability of which is defined by those unique resources and capabilities (Spanos & Liokuas, 2001).

Nevertheless, Brush and Artz (1999) rightly pointed out that there are still gaps in the theory, considering that the four criteria described by Barney (1991) are limited in their practical use for this problem, because they are insensitive to context. Considering this, although the RBV assumes that a firm's resources and capabilities, defined as a high-level routine, or a collection of them that confers a set of decision options for producing significant outputs of a particular type (Winter, 2003), are the main drivers of competitive advantage and economic performance, it is important to consider the environment in order to analyze competitive advantage and, particularly, its sustainability. Relevant theories have argued that sustained superior performance arises from sustainable competitive advantages (Barney, 1997). Hofer and Schendel (1978) described competitive advantage as the unique position the organization developed vis-à-vis its competitors through its patterns of resource deployments, while Reed and Defillippi (1990), believed that competitive advantages come from competencies within the firm control and can be manipulated within strategy to generate advantage for performance. However, these definitions are discussed by other authors, who have argued that to define competitive advantage is necessary to consider not only the current competitors, but also potential future competitors (Baumol, Panzar and Willig, 1982).

Transaction cost approach is another theory very used by strategic management studies, considering that there is a proposition by Commons (1994) that considers that transaction cost is the basic unit of economic analysis, while authors like Hayek (1945) observed that economic problems are relatively uninteresting except when economic events are changing and sequential adaptations to these changes are needed. In this definition its possible start seeing the importance of analyzing environments in constant movement and the way firms adapts to respond to these changes. All these researches consider that transactions occur when a good or service is transferred across a technologically separable interface (Williamson, 1981). According to him, transaction cost analysis are important to be studied, because this may change between organizations, institutions, or even countries, considering that they respond to different factors where bounded rationality and opportunism are included, and transaction actions may be referred as idiosyncratic.

Interestingly, another theory that has gained a lot of momentum in recent years refers to a new concept of *hypercompetition*. This phenomenon has become greatly relevant in the literature due to the need to focus on ongoing changes, as well as, how they affect firms' competitive advantages. D' Aveni (1994) defined hypercompetition as an environment characterized by rapid and intense movements, in which competitors move quickly to build advantages and erode the rivals. Furthermore, he states that competitive advantages are temporary, because of the frequency and aggressiveness of these movements. This is very common in emerging economies, because hypercompetition can be a consequence of rapid technological change, as well as, the result of changes in the institutional context. According to Bogner and Barr (2000), firms from industries in hyper turbulent environments don't have production variables on which to focus, and as a result, while more industries become turbulent, managers need to change their ideas or assumptions about their firms and the environment in which they are operating.

Hypercompetition further questions the long-term achievement of Superior Economic Performance (SEP), suggesting that the traditional and static sources of competitive advantage are replaced by a more dynamic perspective in which the benefits are temporary (D' Aveni, 1994). Accordingly, the new age of competition is different, due to the dramatic increase in competitive actions. Hence, today's global business environment is becoming more competitive and firms' advantages will be rapidly eroded and overcome by the competition (Grimm, Lee, and Smith, 2005). Abnormal returns can be characterized as a disequilibrium phenomenon, that tend to dissipate over time and return to average levels as a result of competitive pressures (Jacobsen, 1988). For him, management can undertake strategies and go into markets that influence the convergence process. Strategies that increase vertical integration, market share and marketing expenditure intensity are important not just because of their direct impact on profitability, but also of their impact on profitability.

However, despite of the importance that this theory has gained in recent times and all empirical studies that have been made in relation to it, it's important to note that although this work considers this theory as fundamental for the theoretical development of this research since Hermelo and Vassolo (2010) used it as central issue to their work, in this research its emphasized that hypercompetition is a reference point and an important consideration, but not necessarily the focal point of it.

In contrast, McNamara et al. (2003) found that there is insufficient evidence to show that markets have turned more hypercompetitive with time, for them, the periods of hypercompetition are temporal. In general, according to their research, from the late 1970s until the late 1980s there was a reduction in performance and stability of the market, according to the increase of hypercompetition. However, from the late 1980s until the mid-1990s, trends change and performance and market stability increased. The question they tried to answer then was whether the markets have become more hypercompetitive in recent years as many theories claim.

Additionally, McNamara et al. (2003) argue that is not surprising that scholars and practitioners take as given the growing importance of the perspective of hypercompetition and changing markets and business strategies. For example, Alavi, Yoo and Vogel (1997) ponders that institutions seek to adapt to changes in an increasingly complex and dynamic world. However, there are opposing views that suggest that competition in markets falls and flows over time, while other reviews show that this phenomenon its present only in environments with specific characteristics in the presence of certain factors. For hypercompetition in contrast, businesses are increasingly unable to maintain its competitive advantage because of the instability of the markets, Debreu (1959), shows that persistent superior economic performance is an anomaly that responds to temporal conditions disappear when the equilibrium is reached.

With regard to the innovation, Schumpeter (1939) believes that profit is the reward for successful innovation in capitalist society and is temporary in nature: it will vanish in the process of competition and adaptation. For him, almost all companies are threat-of and put themselves on the defensive from the beginning of its existence. Ruefli and Wiggins (2005) analyzed different theories of hypercompetition, especially the one proposed by Schumpeter in relation to the profit and how it may disappear in the process of adaptation and in consequence of the aggressiveness of the competition. Schumpeter's theory says that companies today do not have the ability to maintain its strategic advantage over competitor’s behavior found in various industries and not only limited to a few. Additionally, he discuss about sustainable competitive advantage and how this has become less a matter of finding and maintaining a unique competitive advantage and has become more a case of finding a number of competitive advantages over time, joining them to create a sustainable competitive advantage.

Although recent studies warn about being cautious when drawing conclusions about the behavior of abnormal returns, Ruefli and Wiggins (2005), for example, argue that the rate of risk of not having superior economic performance has increased over time, as a consequence of the movement and constant changes in the environment, which eventually has the power to corrode the value of a successful strategy, preventing firms from achieving PSEP and corroborating the predictions of hypercompetition. Likewise, globalization, deregulation and privatization radically change the competitive dynamics and the traditional sources of advantages that no longer provide long-term security (D' Aveni, 1994).

To conclude this important recopilation of theories it’s important to brought Brito and Vasconcelos (2008) research. In their work they showed that firms differ for different reasons but they investigated this variability using the variance components technique. As they found out, the variable country has the second source of variation with 10% of variance, while firm specific and idiosyncratic factors account for the largest part of the observed variance. Another important conclusion of their work is that the dominance of firm effects suggests that managers should concentrate on the development of their companies’ resources and their adaptability to market environment and the resource-based view of strategy offer the theoretical foundation for this.

2.2 Competitive advantage and its sustainability

According to Powell (2001) competitive advantage is not a necessary and sufficient condition for superior returns. It has received surprisingly little formal justification, particularly in light of its centrality in strategy research and practice. Additionally, he says that the hypothesis that competitive advantage produces sustained superior performance, finds little support in formal deductive or inductive inference. Hall and Wolff (1999) clearly referenced the three prominent streams of strategic management and labelled them to reflect the central language and ideas put forth by leaders in each area. For example, the Resource Based View of firms was named *capability logic,* because it has the premise that one firm will outperform another if it has a superior ability to develop and use competencies and resources; chaos theory-based views are part of the *complexity logic* that argues that strategic success is a function of firms talent for thriving in dynamic nonlinear systems that rely on network feedback and emerging relationships, and finally, of particular relevance to this work, hypercompetition and high-speed perspectives embody the *guerrilla logic* which contends that one firm will outperform another if it is more adept at a rapidly and repeatedly disrupting the current situation to create an exceptional and uncommon basis for competing. In the latter, all competitive advantages are transitory and imbalance should be deliberate, frequently and unpredictably sought to create a series of temporary advantages.

Baaij, Reinmoeller & Niepce (2007) made a review of theoretical perspectives on sustained superior performance. They divided into three different perspectives: Neoclassical, Structural and Dynamic. Each perspective has different approaches to this topic, and perspectives about the environmental change, market functioning and predictions and drivers of superior performance. Each of these perspectives has had a lot of different authors that identified themselves with the theories. Neoclassical perspectives for example, consider stable environments with no feasible predictions about sustained superior performance. Structural perspective shows that sustained competitive advantage leads to superior sustained performance, acting in stable or predictable environments with very know theories supporting this view, like the ones discussed before, OI and RBV. Finally, Dynamic perspective is the one that more adequate to this research. This view studies imperfect dynamic markets, where sustained superior performance is reached by a concatenation of transient competitive advantages; environments are more turbulent and unpredictable like the ones that are more close to our reality. In their article, they also propose a research agenda, where they presented topics that must be further developed in relation to competitive advantage and its sustainability. In this opportunity, they talk about the institutional contest and the way that this factor affects the sustainability of performance, showing that it's a very understudied and promising area to be studied.

Also, when talking about persistence of competitive advantages, it's necessary to bring into the discussion the concept of abnormal returns and its persistence in time. This concept can be described as the difference between the actual return and the competitive return, or the return just sufficient to maintain capital investment (Jacobsen, 1988). In his analysis, he found out that as the deviation expected return from the sample mean depends on beta, the validity of using total return depends on the extant in which beta is correlated with the independent variables, form him, beta depends primarily on the nature of the business area.

As have been argued, persistence is a subjective term that has different interpretations by different authors that had examined this element of competitive markets. Jacobsen (1988) argues that firms are able to earn abnormal returns for a substantial number of years. However this persistence is influenced by a number of factors. Vertical integration, market share, and the intensity of marketing expenditure slow the convergence process. To them, firms that implement strategies that increase these factors tend to earn longer-term abnormal profits. Nonetheless, despite the best efforts of management, in time, competitive forces dissipate abnormal returns.

In spite of these concepts, there may be differences in how firms from developed and developing countries achieve SEP and PSEP. The relationship between institutions and competitive advantage may be described as tangled; since there are factors that may drive superior performance, as well as factors that may have negative effects. For example, in developing, countries, there are aspects that facilitate Superior Economic Performance, such as governments that protect firms from international competition through protectionist policies, seeking to protect their national industry by limiting the entry of foreign goods, thus strengthening firms that are beginning to grow. However, this type of action is against the aim of trade liberalization and globalization. In these cases, protectionism may have adverse effects on the market and on the national economy, particularly in a hypercompetitive context.

Consequently, Geroski and Jackquemin (1988) argued that a successful firm is a firm that adapts to the environment, i.e., one that can produce adequate responses to exogenous changes in the context in which it develops, but also faces endogenous changes induced by its own success. In the same way, as companies attempt to respond to hypercompetitive conditions, they are inevitably drawn into efforts to shape their own environment, which sometimes requires influencing various resources and policy-making institutions (Hanssen-Bauer and Snow, 1996). On the other hand, the development of different institutions may generate efficient competition, thus creating better conditions to produce competitive advantages.

Porter (1985) defined sustainable competitive advantage as the most influential mechanism to explain the persistence of superior economic performance. Michael Porter has not only had an interest in defending the theory where competitive advantage is sustainable, several authors over time have spoken about the persistent superior economic performance as Mueller (1986) who believes that persistence is a typical feature of some firms, associated with participation in the market, mergers and acquisitions among others. Geroski and Jacquemin (1988) does for his part, differentiate between the persistence among the countries in which it concluded that is greater in the UK than in countries like France and Germany. Other authors have shown interest in the study of competitive advantage and have found that this can be sustainable over time.

Although sustained superior superiority may arise from skilful management or other valuable, rare and inimitable resources, it can also be a product of luck (Henderson, Raynor & Ahmed, 2009). These authors found that sustained superior performers, as measured by ROA like this research, exceed the number of firms expected by chance. The central idea of their study was to analyze how long and how well a firm must perform to be confident that its sustained superiority is not the product of luck random walk.

This is a very important topic to take into account, because as was stated by Barney (1986), “the lack of complete ex ante information, and the strategic uncertainty it implies, creates an important role for luck in defining the return firms obtain from their strategizing efforts”. Considering this, it’s important to highlight that in some occasions; luck can lead to errors when interpreting sustainable competitive advantage. Henderson, Raynor & Ahmed (2009) argue that luck have a great importance in the analysis of competitive advantage and its sustainability, whereas performance consequences of managerial decisions contain an important dose of randomness and luck (Barney, 1991). Because the interest is to analyze sustainability of competitive advantages in develop and developing countries, other variables was used that directly and visible affect the competitive advantages of firm, however, recognizing the importance of mention this theories and studies that combine luck, randomness and firm performance, topics that are rarely considered to be studied altogether, and, on the contrary, are highly avoided in researches of this kind.

As a conclusion of this topic, the authors give us a conclusion about luck saying that randomness definitely can fool us in our researches. However, Raynor & Ahmed (2009) results about luck was taken into account, where the number of firms that are identified as sustained superior performers based on 5-year or 10-year windows may be random walkers rather the possessor of exceptional resources. Made this first approach, it would still be important to ask whether this behavior of sustainable competitive advantage is generalizable to all countries with different economic, social, political etc.

2.3 Competitive advantage in emerging economies

As noted earlier, the analysis of competitive advantage in emerging markets has become greatly popular. Santos and Eisendardt (2009) argued that the reason for this is that nascent markets are environments with ‘lack of clarity’ about the meaning and implications of particular events or situations that generate varying levels of ambiguity. Ambiguity, in turn, leads to confusion and multiple potential interpretations.

Developing countries are in disadvantage in relation to developed countries because they are scarce in infrastructure, investments, industry, etc. However, there are some cases of developing countries that counts with this kind of resources, but they don’t use the efficiently to create advantages in relation to other countries.

In the research by Hermelo and Vassolo (2010), they explored theoretically why competitive advantages are becoming less sustainable in emerging economies. The focus of their analysis was the institutional context, and they examined the mechanisms by which institutions affect competitive behavior. Furthermore, they suggested that, while the institutional context develops, the competitive dynamics increases, and firms change from a strategy based on institutions to strategies based on resources, favoring the emergence of a hypercompetitive environment. The empirical results of their research support the thesis that institutional development increases the reliance of businesses on temporary advantages. Firms become more dependent on other sources of competitive advantage, such as technology or market positioning, which may be subject to interactions that are more dynamic. Besides, it has been noted that the same institutional and macroeconomic conditions have different effects on temporal advantages, depending on the industry in question. As was said by Porter (1985), successful change management contributes to defending competitive advantage, which is linked to superior financial performance over time.

The sample of Hermelo and Vassolo (2010), took into account only Latin America countries, considering that all of them represent emerging economies (Hoskisson et al., 2000). Average results for Latin America showed that 10.1% of the firms achieved sustainability of abnormal returns, while at least one firm within the 20 sectors analyzed achieved PSEP. Based on these results, they rejected the hypothesis that, in the context of emerging countries, no firm could achieve PSEP. Furthermore, these results also corroborated the hypothesis that some firms achieve PSEP. In total, 19 of the 21 industries contained firms that had achieved PSEP. Their results corroborate the hypothesis that periods of SEP are shorter in emerging countries. Further to this conclusion, they showed that this happens because as the institutional setting develops and expands, competitive dynamic hypercompetition arises.

Contractor (2014) made a research about emerging markets multinationals, in his paper he shows that possible location-specific assets for emerging market companies including the mind-set of top management of EMMs and home country cultural traits like relationships, family control and private equity capital may be sources of competitiveness since there are a lot of factors that are specific to each country like technical talent, cheap labor, and the variables related to the geographical pattern of FDI from emerging economies. Additionally to this analysis, he argues that achieving global scope confers competitive advantages. For Contractor (2014) relatively low-salary technical and scientific talent accruing to EMMs, this cheaper input is undoubtedly a competitive advantage, considering especially the recent decades as the capabilities of technologists in emerging economies has begun to rival those in developed countries.

Companies operating in emerging countries face instability in their institutions that result in increased crashes an external force that affect performance and, therefore, jeopardize the sustainability of competitive advantage. In addition, the environment of these economies is more volatile than in developed countries. The existence of these phenomena described above may have decreased as a consequence of the sustainability of competitive advantages, one of the arguments hypercompetition. On the other hand, internationalization topics are not studied in a detailed way in this study. However, this study took into account that the rapid globalization coupled with major changes in emerging markets has had an enormous positive effect on the volume of FDI from emerging countries (Cuervo-Cazurra, 2008). He analyses and concludes that considering that emerging countries are in disadvantage in relation to developed countries, these countries try to compensate their disadvantages engaging in accelerated internationalization. Mathews (2002) argues that these developing countries invest successfully in developed countries, and high-value added activities in the global value chain using learning, leveraging and linkage capabilities. These countries may also benefit, among others, from the institutional support of home country governments, from firm flexibility and innovation processes. About competitive advantage, Cuervo-Cazurra (2008) considers Hymels model, in which internationalization of the firm occurs due to competitive advantages over foreign companies in its own market. Sustainability of these competitive advantages, in turn, is much related to factors as band strategy and brand image.

Mc Namara et. al (2003) reflected on the theory that individuals come in very different situations retrospect than they do into perspective, that is, in the view of a historical chain of events, people tend to see a clear and logical causal pattern, concluding that the chain of events is clearly foreseeable. In contrast, they show much less confidence in predicting the outcomes of similar situations for which they do not yet know the outcome. In other words, individuals perceive past events as more logical and more stable than the events in the future. This attribute behavior can explain the perception of managers and researchers as growing instability today.

2.4 Institutions

Along the years, a lot of definitions and studies have been done about institutions. Laws, behavior, traditions, governments, are some of the concepts that are related to de definitions of institutions that we know until today. North (2008) defined institutions as constraints created for a political structure and social and economic interactions. According to him, these constraints can be formal or informal, but in the end, they have the same purpose, create order and reduce uncertainty in exchange. Given that institutions act as a structure that defines the way that a society is defined, they are considered as the central piece that determines success of economies.

Beyond this definition, different authors had focus on what makes an institution “good” or efficient to its country, saying that good institutions tend to promote progress of companies, and assure the wellbeing of the entire society. One of the principal researches that have studied this institutional field it’s the one by Douglas North, that along the years had focused his attention on finding answers in the way that institutions interact with their environment and between them.

Hodgson (2006) argues that institutions are the structures that matter the most in societies because in a certain way, they make up the stuff of social life or putting in another way, they determine the way that humans interact. His definition considers that institutions are systems of established and prevalent social rules. Interestingly, Hodgson (2006) discuss Douglas North position about institutions because according to him, North is not clear when he makes the distinction between organizations and institutions, and between formal and informal institutions. Additionally, he criticizes the definition made by North, especially for the use that he gave to the word constraints because according to him his definition neglects the enabling aspect of institutions by emphasizing constraints alone.

2.4.1 New institutionalism

Institutionalism has shown us over the years the importance of concerning in the interaction between different actors in society. As the definition of institutions that was showed, these are critical in determining the economic behavior and evolution of the set of organizations that exist.

New institutionalism is a concept that it’s important to this analysis because it looks to elucidate the role that institutions play in the determination of social and political outcomes. However it’s important to clear up that it does not consider only a unified body of thoughts, but instead have three different schools of thoughts: historical institutionalism, rational choice institutionalism and sociological institutionalism (Hall & Taylor, 1996).

According to (Hall & Taylor, 1996) and as a brief explanation of this concept, historical institutionalism help us to define institutions, routines and the organizational structure. In a general perspective, historical institutionalism associate institutions with organizations and the rules promulgated by formal organizations. On the other hand, rational choice institutionalism makes a special emphasis on the importance of strategic interaction or the analysis that help us to understand that the behavior of an individual might be driven by a strategic calculus and the actor expectations about how others are going to behave.

Finally, and maybe the most important school of thought named after (Hall & Taylor, 1996), is the sociological institutionalism. This theory argues that institutional procedures are culturally specific to each society; for them, even the most seemingly bureaucratic practice has an explanation in cultural terms. This concept must be considered as the most important to this study because it brings into the discussion the particularities of institutions according to the country where they are established. Sociological institutionalism will help in the analysis because it refers to the differences and similarities between the countries being analyzed.

Given all the arguments above, was considered important to emphasize the topic of institutions in this work for three main reasons: First, because undoubtedly the institutional part shows us some peculiarities of society and organizations and how they can evolve through institutional support. Second, because this institutionalism is a phenomenon that is in constant interaction with various sciences that use it as support for their research, and therefore it’s important to take them into account. At last, because in theory, or as we'll see below, there are some phenomena that are going to help explaining and creating a strong theoretical basis for this work.

2.4.2 Isomorphism

Williamson (1981) and North (1991) also developed this concept, bringing a broader institutional approach that in the case of Williamson as we saw earlier was largely justified by transaction costs. This is another concept that taken into account in this research. Dimaggio e Powell (1983) describes this concept as a process of homogenization. They used Scheling (1978) theory, where organizations in a structured field respond to an environment that consists of other organizations responding to their environment. Another definition they use is the one created by Hawley (1968), for him, isomorphism is a process that forces one unit to resemble other units that face the same environmental conditions. This perspective shows the importance of considering the environment and background of the firms; not only considering the assets and resources isolated, but taking into account the institutions and organizations that interact with them. At the same time, it's important to ponder the way that institutions at the same time interrelate between them, in some cases imitating the behavior of other institutions with the objective of responding to different factors that might affect their performance. Using this procedure, institutions behaviour must depend on the country where they are established and principally, macroeconomic issues must define the way they respond to these threats.

For this work, it's important to read this concept in a particular way. When we talk about sustainability or when this concept its referring to an institution, for example, the tendency is that others want to imitate what was done, bringing the formation of new standards or ways of carrying out any function, i.e. homogenization of institutions (Dimaggio and Powell, 2005). This process causes organizations, firms or institutions to resemble others that face the same set of phenomena in their environment.

Another part of their theory important to take into account in this research is the mechanisms of institutional isomorphic change. First we have the *coercive isomorphism*

that is the one that stems from political influence and problems of legitimacy; so, it's a process that leads to homogenization when pressures from the outside are generated, for example, the government. The consequence of these phenomena is that organizations decide to take the same road that others did to face situations that are similar, including the sustainability of competitive advantages.
On the other hand we have *mimetic isomorphism* that Dimaggio e Powell (1983) describes as the result from standard responses to uncertainty and as its definition and its name suggests, this is when its created a of solutions to uncertainty, in this cases the organizations decide to imitate other organizations because they have no answers to the factors in their environment that are bringing to them some complications. Finally the *normative isomorphism*, the one related with professionalization this type of isomorphism is more related to requirements that may arise for organizations and can lead them to a homogenized behavior.

This three kind of isomorphism must be found in the situation being analyzed. First, we see that depending on the country being analyzed, political influence or problems of legitimacy must appear as the definition of coercive isomorphism proposes. Moreover, can't be disclaimed that mimetic isomorphism may occur in cases where firms do not have answers to the instability of the environment and decide to imitate others. At last, normative isomorphism may vary according the country because new norms or laws might be imposed, and this may lead to imitation in the implementation between them.

As previously stated, this research addresses the issues of sustainable competitive advantage, considering that the concept of hypercompetition and sustainable competitive advantage is yet to be studied in depth, comparing the effects of the institutional context in developed and developing countries, study that could be very useful to find differences between them, which is the main reason and purpose of the present study. Therefore:

Hypothesis: Being in a developed or developing country, affects the probability of achieving superior economic performance (SEP) or persistent superior economic performance (PSEP)

3. METHODOLOGY

An important aspect of this study is to consider the sustainability of advantage as lasting for long periods, in view of the fact that various theories and studies have analyzed limited periods, without considering the dynamics of sustainability. For the purpose of this research, economic performance was defined as the ROA, and Superior Economic Performance (SEP) was operationalized as statistically significant above average ROA (relative to other firms in the same industry) for a period of five years. Persistent Superior Economic Performance (PSEP) was operationalized as above average ROA for 10 consecutive years, in line with Ruefli and Wiggins (2002).

Countries from different regions were selected to represent emerging economies, namely Argentina, Brazil, Colombia, Chile, China, Malaysia, Mexico, Peru, Poland, Taiwan, Turkey and Venezuela. Data for developed economies was sourced from countries such as Australia, Canada, Japan, South Korea, Germany, Spain, France, Netherlands, Norway, Portugal, Italy, UK, Sweden and the United States. The criterion for selection of the countries was based on the possibility of obtaining complete information for the selected years for each of the variables included in the model. Including Latin American countries in this research is extremely valuable, but the most important aspect is drawing comparisons between developing and developed countries, because there are currently few studies that take this approach. This analysis enables determining the differences and similarities between these countries, as well as key factors for sustainable competitive advantages, depending on their economic realities. The classification of developed and developing countries was based on information provided by the International Monetary Fund, the same source used by Hermelo and Vassolo (2010).

Additionally was decided not to limit the sample to developing countries that Hermelo and Vassolo (2010) considered in its investigation, because it is clear that there are several factors that can affect achieving superior economic performance, not just their definition of become a developed country or developing. An example of this was the theory which has already been mentioned previously Ghemewaht (2005), where for him; geographical location plays a key role in achieving and maintaining the tempo of competitive advantage. In addition to the definition of development or not, it was important to take in the countries with the same condition shows, but in different regions of the world, since this could mean differences between them, despite having the same condition development.

To test the hypothesis, it's going to be analyzed the ROA for each company relative to the average of other firms in the same industry. With this analysis it's going to be determined if the firm had Superior Economic Performance (SEP), or Persistent Superior Economic Performance (PSEP). Additionally, the mode was calculated for the purpose of categorizing firms with the Iterative Kolmogorov Smirnov test and then determine which firms had ROA above the mode. Once this step is finished there are going to be done some tests. The first analysis is the probit model that will help to analyze how the variables influence is obtaining superior economic performances.

Later, was estimated the probit with the treatment variable **developed**, the one that defines if a company is in a developed or developing country, followed by a psmatch test that will help to estimate which variables do not give common support to the study. Finally, the probit test it's going to be repeated with the variables desconsidered and differences with the previous test will be analyzed. .

3.1 Data and sample

To accomplish the principal purpose of the research, information of companies in developed and developing countries was collected. The research started with the same countries that Hermelo and Vassolo (2010) used in their study, and then was increased the data with firms in developed countries and developing countries of others regions. As was explained before, it was decided to analyze more recent years that the ones they took in their research, this to have a sample more appropriate and close to the reality nowadays.

Firms' financial information was collected from the Bloomberg database. The sample was comprised of 600 firms in 26 different countries, 14 from developed countries and 12 from developing countries. Countries in different regions with different realities was chosen, this to create a better scenario for the comparison between developing and developed countries. The forms in the sample are part of different industries within their countries, representing sectors such as the financial, energy, materials, telecommunication services, and consumer staples, among others. The period selected was from 1995 to 2011, because financial data for this time period was robust and complete, particularly for developing countries that do not have consistent information before 1995. This period of time was analyzed because it is more recent that the one analysed by Hermelo and Vassolo (2010), and one purpose was to have results with data more adjusted to our current reality. Firms that did not have information available relative to the entire period were excluded. Variables were collected from the World Competitiveness Yearbook from 1995 to 2011. The civil liberties and political rights variables were obtained from the Freedom House database.

In order to estimate the effect of a firm being in a developed or developing country, i.e. to reduce bias and to determine the probability of participating in the treatment within a set of observed covariates, the Propensity Score Matching technique was used, developed by Becker and Ichino (2002). This is a fundamental part of the empirical tests, because considering that was decided to compare countries that apparently are so different, the most important aspect of the work, is to reduce the possibility of obtaining erroneous conclusions and results, knowing that countries as the ones used in the sample can’t be compared, without making an additional effort to make it more accurate research.

3.2 Covariates

Hermelo and Vassolo (2010) chose 12 variables in line with Chan et al. (2008); the variables chose were meant to reflect different aspects of economic, political, social and institutional development. Three variables were related to economic institutions: (1) per capita gross domestic product, (2) distribution infrastructure and (3) financial resources. The rationale for choosing these variables is that higher levels of income and a good infrastructure and access to credit increase the bargaining power of consumers, fostering higher levels of rivalry in the economy. Four variables were related to political institutions: (4) intellectual property, (5) legal and regulatory framework, (6) the quality of bureaucracy and (7) adaptability of government policies to changes in context. These variables were chosen hoping that, with the rise of hypercompetition in contexts in which intellectual property rights are properly enforced, the legal system encourages competitiveness between enterprises, the bureaucracy does not hinder business activity and policies are effectively adapted to new business realities, fostering competitiveness. Finally, four variables were related to social institutions: (8) justice, (9) personal safety, (10) bribery and corruption, (11) civil liberties and (12) political rights. It is expected that, in societies where the justice system is well managed, people and property are protected, bribery and corruption are scarce, and civil liberties are guaranteed, firms increase their investment levels and commitments, favoring conditions for the emergence of hypercompetition. The first variable is measured in constant U.S. dollars (base-year 2000), and obtained from the database of the International Monetary Fund. For better understanding of the variables, Table 1 contains a brief explanation of each.

Table 1: Description of variables

Institutions	Effect	Variable	Observations
Economic	Stability and economic growth favor the conditions for firms to achieve sustainable competitive advantage	Gross domestic product. current prices Inflation. average consumer prices Volume of imports of goods and services Volume of exports of goods and services	
Politic	Contexts in which there is a favorable legal and regulatory framework are positive to boost the competitiveness of firms. Additionally. access to financial resources. infrastructure and protection of property rights. may increase the rivalry between them. Institutions with high rates of bureaucracy may involve little opportunity for the exercise of business activities. If the policies are adapted to the new realities of the context. this may favor the market sustainability.	Distribution infrastructure	Updated: MAY 2013. IMD WCY executive survey based on an index from 0 to 10
		Financial resources/Public finances	Updated: MAY 2013. IMD WCY executive survey based on an index from 0 to 10
		Intellectual property rights	Updated: MAY 2013. IMD WCY executive survey based on an index from 0 to 10
		Legal and regulatory framework	Updated: MAY 2013. IMD WCY executive survey based on an index from 0 to 10
		Bureaucracy quality	Updated: MAY 2013. IMD WCY executive survey based on an index from 0 to 10
		Adaptability of government policies to changes in context	Updated: MAY 2013. IMD WCY executive survey based on an index from 0 to 10
Social	In countries where institutions are in charge of administering justice. there is protection for freedom and political rights. there are no high rates of corruption and security is guaranteed. firms increase their investments and increased the rivalry between them.	Justice	Updated: MAY 2013. IMD WCY executive survey based on an index from 0 to 10
		Personal security and private property rights	Updated: MAY 2013. IMD WCY executive survey based on an index from 0 to 10
		Bribing and corruption	Updated: MAY 2013. IMD WCY executive survey based on an index from 0 to 10
		Political Rights	“F.” “PF.” and “NF.” respectively. stand for “Free.” “Partly Free.” and “Not Free.”. 1=F-6=NF
		Civil liberties	“F.” “PF.” and “NF.” respectively. stand for “Free.” “Partly Free.” and “Not Free.”. 1=F-6=NF

3.3 Empirical strategy

Excluding cluster analysis, because it requires specifying the desired number of groups a priori (Ketchen and Shook, 1996), the literature sets forth two ways of measuring Superior Economic Performance (SEP). The first one, involves computing grand mean performance over the n-components' periods in each window and categorizing entities into above and below average categories, based on their average performance (Besanko et al., 1996). The second method, involves adopting average returns above the average of the reference set statistically using the Iterative Kolmogorov-Smirnov methodology: the difference between two samples not assuming that they are normally distributed (Wiggins, 1997; Ruefli and Wiggins, 2000; Baaij, Greeven, and Dalens, 2004).

Working with these measures, directly comparing developed and developing countries, can generate biased results since firms operating in developed countries work historically in market economies (Cazurra and Genc, 2008) and therefore, are subject to greater competition and difficulties to produce and maintain SEP than firms in developing countries; because they are historically more closed economies (Cazurra and Dau, 2009) with less competitiveness, where promarket reforms positively affect firms' profitability, and in consequence, it is easier to maintain a standard SEP.

As it is very difficult to produce an experiment in a cross-country research (Yanagizawa-Drott , 2014 perhaps one of the rare exceptions), different controls over the observable variables of the countries was used to test the probability of producing SEP in a common group of countries. The idea is that companies can choose the environment to generate economic profit. Thus, seeking a common support of observable variables (Heckman et.al, 1998), it's intended to avoid final biased results. There is not going to be an experiment, but it's the best that can be done do right now to determine robust results on the probability of being SEP considering distinct group of countries.

In the equation terms, the expression for common support:

$$0 < \mathrm{P}(\mathrm{SEP} = 1/\mathrm{Covariates}) < 1 \qquad [1]$$

Thus, the empirical strategy found these conditions to estimate the determinants that predict a firm's SEP. In line with the literature, this study followed that same procedure capturing non-observable effects (fixed) from sectors and industry, and time dummies, given that the investigation on SEP is defined at a particular time. Time dummies can capture a simultaneous effect on all firms, such as global results (e.g. global growth).

In this research, was used the following Probit model:

$$\Pr ob(SEP_i = 1 | Developing_i) = \Phi(\alpha.Developing_i + \gamma Co\,\mathrm{var}\,iates_i + \varepsilon_i) \qquad [2]$$

Where $\mathrm{SEP_i}$ is a dummy with value equal to one, if the firm is classified as SEP, and zero, if the firm is not classified as SEP. $\mathrm{Developing_i}$ is a dummy with a value equal to one, if the firm is located in a developing country, and zero, if it is not. $\mathrm{Covariates_i}$ are the observed variables that can be influenced by the relationship between the dummy and the SEP variables. ε_i is the error with normal distribution; Φ is the Cumulative Distribution Function of the standard normal distribution. The parameter α is typically estimated by maximum likelihood.

There are two distinct techniques: Propensity Score (Rosenbaum and Rubin 1983) and Difference-in-Difference (Imbens and Wooldridge 2009; applied ATT on stata computational package). The Propensity Score technique is used to reduce the bias that observable variables produce on difference between the treatment and control group on experiment. The Difference-in-Difference technique is an intervention on treatment group to verify the difference between it and the control group on experiment. Although the techniques are distinct, it is possible to use together. We can give common support on observable variables of treatment and control group before of intervention (PS and Dif-in-Dif; see Zeng, Scully, and Barrington 2005, one applied exercise)).

We did not use the techniques together because we do not have an experiment between countries. We would like to know the probability of firms will be PS (and others measures) on support common given that observable variables, mainly, institutional difference between countries, could explain this result. An innovation on the literature.

4. MAIN RESULTS

A t statistic test was used to determine whether the means of the population of independent variables differ significantly depending on a country's conditions, i.e. developed or developing. In this descriptive statistics (Table 2), it is important to notice that there is a statistical difference between variables. Hence, it is important to correct the bias from comparing firms with different economic realities to prevent incongruous results.

As can be seen on the table, almost all variables are statistically highly significant, which means that the variables of both, developed and developing countries have significate differences between the variables, and that in consequence, this work have to take this into account and correct the possible bias that may appear as a result of this difference. This type of result was expected and since that in the beginning of the research was predicted and pointed out the importance of the Average Treatment Effect test, to reduce the bias of comparing developed and developing countries directly.

Table 2: Descriptive statistics

	Developed				Developing			
	Mean	Std. Err.	Min	Max	Mean	Std. Err.	Min	Max
Sales	413,477.8	2,106,264	-848.62	4.28e+07	127,653.4***	602,141.4	-15,045.83	9,263,200
Debts	354,995.3	3,537,122	0	1.03e+08	115,314.6***	700,944.9	0	1.75e+07
Gross domestic product	109.06	31.08	60.18	224.59	3.22e+10 ***	8.62e+10	2.25	3.70e+11
Inflation. average consumer prices	5.21	14.64	0	59.05	1.20***	6.44	0	73.22
Imports of goods and services	5.31	6.73	-22.04	26.40	9.25***	15.45	-54.58	52.25
Exports of goods and services	4.86	6.63	-24.19	24.70	7.34**	8.07	-13.73	39.76
Distribution infrastructure	6.85	2.16	0	9.18	4.83***	2.31	0	9.56
Intellectual property rights	7.28	1.04	3.95	9.15	4.62***	1.68	0	7.34
Financial resources/Public finances	4.76	2.28	0	9.01	4.49**	2.46	0	8.18
Legal and regulatory framework	4.65	2.21	0	8.48	3.59***	2.27	0	8.56
Bureaucracy quality	3.53	1.14	1	6.48	2.72***	1.50	0	7.31
Adaptability of government policies	4.51	1.30	1.37	7.43	4.32***	1.85	0	8.25
Justice	6.78	1.74	1.75	9.32	3.61***	1.98	0	8.78
Personal security	7.32	1.12	4	9.14	4.15***	2.40	0	9.56
Bribing and corruption	6.19	1.77	2.10	9.13	2.98***	2.01	0	7.61
Political Rights	1.01	0.13	1	2	2.57**	1.39	1	7
Civil liberties	1.30	0.45	1	2	2.83***	1.30	1	7
Observations	5,253				4,907			

Note: *** p<0.01. ** p<0.05. * p<0.1

Table 3: Correlations table

	Developed	Gdp	Inflation	Imports	Exports	Infrastructure	Intellectual prop.	Financial	Regulatory
Developed	1.000								
Gdp	-0.2586	1.000							
Inflation	0.1726	-0.0708	1.000						
Imports	-0.1646	0.0776	-0.0443	1.0000					
Exports	-0.1659	0.0072	0.0132	0.5136	1.0000				
Infrastructure	0.4114	-0.1907	0.1385	-0.1080	-0.1250	1.0000			
Intellectual prop	0.6910	-0.1781	0.1435	-0.1419	-0.0786	0.6361	1.0000		
Financial	0.0576	0.0732	-0.1132	0.0130	-0.0384	0.4984	0.2883	1.0000	
Regulatory	0.2303	-0.1053	0.0411	-0.0986	-0.0914	0.6531	0.5389	0.8083	1.0000
Bureaucracy	0.2918	-0.2322	-0.0441	-0.0012	0.0776	0.5044	0.7016	0.3195	0.5613
Adaptability	0.0609	0.0176	-0.1431	0.0870	0.0938	0.3184	0.5204	0.4955	0.5388
Justice	0.6473	-0.1776	0.2129	-0.0773	-0.0631	0.6598	0.8761	0.2773	0.5707
Security	0.6480	-0.2349	0.2525	-0.0986	-0.0506	0.7098	0.8487	0.3223	0.5810
Corruption	0.6466	-0.2534	0.1105	-0.0592	-0.0379	0.5901	0.8468	0.2231	0.5108
Political rigths	-0.6202	0.0884	0.0370	0.0872	0.2203	-0.2489	-0.4167	-0.1044	-0.0942
Civil liberties	-0.6205	0.1220	0.1282	0.0797	0.2241	-0.3533	-0.4863	-0.1725	-0.2009

Table 3B: Correlations table

	Bureaucracy	Adaptability	Justice	Security	Corruption	Political rigths	Civil liberties
Bureaucracy	1.0000						
Adaptability	0.7466	1.0000					
Justice	0.7719	0.4845	1.0000				
Security	0.7396	0.5014	0.9071	1.0000			
Corruption	0. 8125	0.5035	0.9319	0.8488	1.0000		
Political rigths	-0.0446	0.0030	-0.3451	-0.3191	-0.3740	1.0000	
Civil liberties	-0.1673	-0.0360	-0.4449	-0.4149	-0.4953	0.8945	1.0000

The correlations table shows the coefficients to the relationship between each independent variable that was considered in the study. Some of the more important conclusions that can be draw are linked to the relation that exists between the institutional variables. First it's possible to focus on the variable *developed,* this was defined with the characteristic of the country, developed or developing. As can be seen in the results of the correlation, apparently the variable that has the more significant direct relationship is *intellectual properties,* while the variables *political rights* and *civil liberties* presents the most important inverse relationship to this variable that it's going to be used in the tests.

Additionally can be seen that there is a strong direct relationship between the variables *civil liberties* and *political rights* and that at the same time this two variables have an inverse relationship to the variable being studied, *developed.* This observation fits with the idea that developed countries are the ones that protect individuals and their rights.

This analysis of the relationship that exists within the group of variables is important because it helps to understand the nature and dependence on the institutional variables and the interaction between them.

To test the hypothesis the ROA was analyzed for each company relative to the average of other firms in the same industry. The purpose of this was to determine if the firm had Superior Economic Performance (SEP), defined as statistically significant, above average, for at least five years, or Persistent Superior Economic Performance (PSEP) with a superior average for 10 consecutive years. Next, mode was founded, or the value that appears most often in the set of ROA data for each company in their industry and country. The mode is used to categorize firms using the Iterative Kolmogorov-Smirnov test and to determine which firms had ROA above the mode. According to the Kolmogorov-Smirnov test, 114 firms from both, developed and developing countries, where significant at factor level of 10%, indicating that those firms attained SEP or PSEP during the period analysed. Next, the Average Treatment effect on the Treated (ATT) was estimated by propensity score matching, in order to estimate the effect of a treatment on behalf of the covariates.

The first analysis, the probit model, considered different measures to determine whether a company had SEP or PSEP over the years analyzed. The aim of this test was to determine how the variables influence the participation probability in the new overall sample and fit a maximum-likelihood probit model. This analysis used three different treatment variables: ROA above average for five consecutive years, ROA above average for 10 years and ROA above mode (Table 3). First, marginal effects after estimation were calculated, which determines the elasticity of each independent variable against the dependent one. It also expresses the change in the dependent variable caused by a unitary change in the independent variables, when other conditions are maintained constant. In this study was founded a probability of SEP (ROA above average for five consecutive years) of 29.3%, and a probability of PSEP (ROA above average for 10 consecutive years or more) of 19.10%. Moreover, the probability of obtaining ROA above mode was 70.34%.

Table 4: Dependent variables

	(1)	(2)	(3)
	Probit	Probit	Probit
		Dependent variables:	
Independent variables	SEP	PSEP	ROA ABOVE MODE
Sales	-4.64e-08	6.50e-08*	1.92e-07*
	(0.000)	(0.000)	(0.000)
Debts	-1.03e-07	-5.48e-08	-2.08e-07
	(0.000)	(0.000)	(0.000)
Gross domestic product	-1.27e-13	1.11e-12	3.00e-12****
	(0.000)	(0.000)	(0.000)
Inflation	0.010**	0.015 ****	-0.016****
	(0.004)	(0.004)	(0.004)
Volume of imports	0.007**	-0.001	0.004
	(0.003)	(0.004)	(0.003)
Volume of exports	0.003	-0.004	0.003
	(0.006)	(0.005)	(0.005)
Distribution infrastructure	0.025	-0.121****	0.040****
	(0.021)	(0.023)	(0.021)
Intellectual property rights	-0.016	0.203*	-0.089****
	(0.042)	(0.049)	(0.042)
Financial resources	-0.005	0.155****	0.022
	(0.026)	(0.028)	(0.026)
Legal and regulatory framework	0.011	-0.021	-0.074*
	(0.032)	(0.037)	(0.032)
Bureaucracy quality	0.003	0.130****	-0.168****
	(0.061)	(0.068)	(0.060)
Adaptability of government policies	-0.025	-0.141****	0.092*
	(0.040)	(0.046)	(0.041)
Justice	0.053	-0.139	-0.033
	(0.050)	(0.056)	(0.051)
Personal security	0.037****	-0.145****	0.003
	(0.031)	(0.039)	(0.031)
Bribing and corruption	-0.061	0.063	0.146****
	(0.049)	(0.054)	(0.049)
Political Rights	0.164**	-0.411****	-0.064
	(0.065)	(0.085)	(0.066)
Civil liberties	-0.068	-0.098	0.074****
	(0.066)	(0.078)	(0.067)
Number of Observations	1.938	1.938	1.938

Note: Robust standard errors in parentheses. *** p<0.01. ** p<0.05. * p<0.1

The coefficients of this first test showed that for SEP variables such as corruption, debts, adaptability to government policies, GDP, among others had a negative coefficient for obtaining a higher ROA for 5 consecutive years. Moreover, for PSEP appeared with negative coefficient other variables such as security, exports and imports. In this part is interesting to note that for a persistent superior economic performance for 10 consecutive years or more, the imports variable arises with a negative coefficient, showing that for greater sustainability of ROA, in the interpretation of competitive advantage, imports have a negative effect. However, it’s important to clarify that the coefficients for these variables showed very low values, and according to the interpretation they could be considered as not significant.

Furthermore, probit with the treatment variable **developed** was estimated**,** which defines if a company is in a developed or developing country. The relevance of this test is that it is important to control the bias of being in a developed or developing country, as well as to determine whether this condition affects Superior Economic results. The argument is that firms may be choosing where to establish because, in some cases, developing countries enjoy more protection from government, have more closed economies and do not have a competitive market, so it may be easier for them to profit in such locations. The economic conditions of countries and their classification are relevant to this analysis, and must be addressed because, if this selection bias is not corrected, it could lead to biased interpretations that firms are in developed countries, or not, to ensure superior economic performance.

As in the previous tests, the marginal effect was calculated and found a probability of 55.02% of a company being in a developed country. After, psmatch, a test that implements matching and a variety of propensity score methods to adjust for pre-treatment observable differences between groups of treated and a group of untreated was calculated to determine the difference between variables in the two groups; the results showed that the variables GDP, inflation, distribution infrastructure, bureaucracy and bribing and corruption, do not give support to the model. Hence, a second test was performed, the psmatch test with kernel outcome, to determine whether those variables had to be reconsidered, because the results of the two tests may differ. This probability function confirmed that it was necessary to exclude the variables from the model, as well as the variables sales and adaptability of government policies that do not appear to be necessarily excluded from the model in the first test.

Early analysis included all the variables described in the model, but some of them were excluded from the models explained below according to the theory. After variable exclusions, marginal effect on the three dependent variables described before was further explored. This analysis found that probability changes rose of 29,39% to 29.47%, and variables, such as debts, intellectual properties, financial resources and civil liberties had a negative coefficient because the changes in the independent variable are inversely proportional to variations in the dependent variable. On the other hand, for the ROA for 10 years, the probability increased by 0.38% with a negative coefficient for the variables imports of goods, exports, legal and regulatory framework, justice, personal security, political rights and civil liberties. For the ROA above mode, the probability decreased by 0.62%.

After performing the correction of bias was examined some of the coefficients for SEP and PSEP as was done before. In the first case it was possible to determine that debts remain with a negative coefficient, while justice, security, political rights and legal and regulatory framework have the opposite effect. Secondly PSEP present variables such as imports with negative coefficient, and intellectual and financial resources with positive. What can be deduced from these values is that while some environmental variables can lead to superior economic performance, as good conditions of security, political rights or regulation, others may go against it creating difficulties to maintain competitive advantages generating a turbulent environment that hinders the work of firms in, an example of this is corruption or firms debts.

However, it is important to clarify that, although the correction of bias showed little impact in terms of the likelihood of a company being economically superior, as mentioned above, this result was expected because developing countries have become more open since the nineties. In light of this, can be concluded that if data from previous years were used, the bias would probably be more significant, as well as probabilistic differences.

As a final aspects in the results, it was not made an very deep analysis of the sector to wich the company belongs, and we actually didn't discuss this item in a very detailed way, however we found out that in our database there are two possibilities:

1. Unique Firms and Sectors (example: firm X in Y sector, Z country; firm W in K sector, Z country, etc.)

2. Firms of the same sectors in different countries (for example, the firm X and, Y sector and Z country, the N firm, sector Y in a different country than Z)

It's important to note that it was considered very important the indication of the importance of the sector effect (a non-observable fixed effect). However, there is no way to establish this technical procedure without generating inconsistent results. The probit is a nonlinear estimate. The literature contains more than one reference to the impossibility of this. Greene (2002) argues that exists a difficulty of estimating nonlinear models with possibly thousands of dummy variable coefficients. According to him, many models of interest to practitioners, estimation of the fixed effects model is feasible even in panels with very large numbers of groups. The result, though not new, appears not to be well known. On the other hand, Arellano and Hahn (2006) stated that standard estimators such as maximum likelihood estimators are usually inconsistent if the number of individuals n goes to infinity while the number of time periods T is held fixed. For them, fixed T consistency is a desirable property because for many panels T is much smaller than n, but these type of estimators are not available in general, and when they are, their properties do not normally extend to estimates of average marginal effects, which are often parameters of interest. Arellano and Hahn (2006) also discuss the fact that when the time series dimension T is small relative to the cross-sectional dimension n, ML estimates of the common parameters or other average effects can be severely biased, especially in dynamic models.

Our methodology is consistent because it control observable differences between firms from different countries that can influence the results. To resolve the issue questioned about the sector, that is relevant, we would have to first develop an estimator that resolve this problem, thing that literature still has not done. Greene (2002) also considers this issue, and he argues that the more difficult, methodological issue is the incidental parameters problem that raises questions about the statistical properties of the estimator and, as was described before, there is relatively little empirical evidence on the behavior of the fixed effects estimator and that which has been obtained has focused almost exclusively on binary choice models. Another example is the study by Fernandez-Val (2007), his paper derives analytical expressions for the bias of fixed effects estimators of index coefficients and marginal effects in probit models. According to him, the expression for the index coefficients shows that the bias is proportional to the true value of the parameter and can be bounded from below. For him, fixed effects estimators of ratios of coefficients and marginal effects do not suffer from the incidental parameters problem in the absence of heterogeneity, and generally have much smaller biases than fixed effects estimators of the index coefficients.

Working with linear models (multivariate) and sectorial dummies to capture non-observable effects, do not allow to obtain statistically the common substrate to observe the difference between firms in developed and developing countries. If we did that, we would go back to the stage where literature is and we will not evolve in the discussion.

However, it is always good to remember that the observable factors can somehow capture sectorial differences as the level of debt and sales, for example, are next to the average of firms by sector.

Undoubtedly, it is a limitation of work. We will try in future to deal better with this issue.

DISCUSSION AND IMPLICATIONS

The hypothesis was tested based on strategic management theories about competitive advantage and its sustainability over time. Was explored whether there was a significant difference in the sustainability of SEP between firms in developed and developing countries. In this analysis, was taken into account the study by Hermelo and Vassolo (2010), where they considered the institutional context of the countries as determinant in achieving SEP and PSEP. In their study, they concluded that the relationship between institutions and competitive advantage is complex and certain factors can affect them in both directions, i.e. some mechanisms favor sustainability and others prevent it, like corruption and poverty, factors that increase transaction costs for countries due to weak institutions unable to deal with these difficulties. Furthermore, they found that competition is less intense in emerging economies, but they do not deny the existence of a hypercompetitive context in such economies. According to them, competitive advantages are becoming less sustainable in emerging economies.

This study established the importance of complementing their research with data from firms in developed countries, in order to determine the difference in persistent superior economic performance over time in economies with different conditions. The empirical results support the proposition that there is a significant difference in the sustainability of SEP between firms in developed and developing countries. According to these results, at least one firm in both developed and developing countries achieves SEP and PSEP. However, selection control was applied in order to control the bias of being in a developed or developing country and to determine whether this had effect upon achieving Superior Economic results. Another factor to be considered is the effect that some institutional variables have on the economic performance of firms. In this analysis, certain variables that reflect the economic, social and political conditions of the country was included in order to test the influence that those variables may have on reaching SEP or PSEP during the period analyzed.

Separating countries in developed and developing resulted very useful to make the comparison planned for this research and also it helps to reflect some of the concepts of isomorphism studied in institutional theory. In line with theory and results, it’s clear that institutions or firms within a country may tend to homogenize their behavior as they are facing similar situations to their environment; consequently, it is possible that such environment may be the cause of superior economic performance and competitive advantages, and if the environment is stable, surely it will favor the emergence and sustainability of competitive advantages, while in the opposite case, its attainment and maintenance will be more difficult.

The results showed that in both, SEP and PSEP, variables such as debts, intellectual properties, financial resources, imports of goods, exports, legal and regulatory framework, justice, personal security, political rights and civil liberties had a negative coefficient. This can be explained because as was said earlier, changes in these variables are inversely proportional to the variation in the superior economic performance and its sustainability. The correlation table exposed the relation between the independent variables as sawed before. Correlations such as justice and security or corruption and bureaucracy have higher degree of association between them, while civil liberties and security, political rights and justice had the lower.

Another distinction that it’s important to the analysis is the difference in the probability of obtaining SEP or PSEP. Returning to their definition the results are "logical" because there is a greater chance for firms to achieve SEP than PSEP, which would seem to be obvious since for SEP, companies need only five years of superior economic performance relative to the other companies, while for PSEP they need 10 years, a task that may be more difficult in times in which the environment suffers permanent changes in response to economic, social, political issues, which are not exclusive to some countries regardless of their condition.

As was noted in the beginning of the research, several doubts emerge about whether hypercompetition it’s really a valid theory to discuss the sustainability of competitive advantages. Much has been said and discussed about this trend which certainly brought a debate that includes current concepts and considers environmental variables that are essential when making an analysis of this type. Despite having included the assumptions and implications that hypercompetition has shown in recent years in relation to competitive advantage, according to the results obtained, thinking that institutional development brings hypercompetition and consequently a decrease in sustainable competitive advantages because they became a temporary condition for emerging countries, is a conclusion that perhaps needs to be studied deeply, since according to other theories as institutionalism or even theories about competitive advantage, when companies are in a favorable environment this can certainly encourage the emergence and maintenance of a superior economic performance or competitive advantages.

One of the points at which the findings are consistent with those of Hermelo and Vassolo (2010), is that today it’s actually more difficult to maintain competitive advantages than in the past. The explanation is not necessarily linked to the concept of hypercompetition, but is to the evolution of institutions, competition, protectionist policies and turbulent environments in which today's companies operate. As explained at the beginning of the research, a variable considered important to mention is protectionism from which was concluded that developed countries today have a policy to protect their markets lower than developing countries, but emerging countries have more stability because they have learned preventive policies to avoid the collapse of their economy. These points are important for this research because as was showed in the results, one explanation for the probability to not vary after correction of bias is that many of these policies of protection and prevention in developing countries have been implemented in recent times, and since this sample is between 1995 and 2011, it's understandable that was not obtained a big difference between probabilities after and before the correction of bias.

Taking about institutions, they are key organizations that help society to develop its economy and in consequence, help firms to create competitive advantages that might be sustainable in time depending on the performance and quality of its institutions. Countries with institutional turbulence must in consequence suffer problems that affect competitiveness of firms and also its sustainability.

Another important finding in the study based on the theory and empirical part, is that developed countries tend to have more established institutions that ensure compliance with laws and regulations in society, facilitating the development of organizations and companies. Considering that institutions are vital to achieving higher performance and that the way they maintain it is somehow defined by their environment, it's possible to say that developed countries have an advantage in relation to developing countries, when talking about the sustainability of competitive advantages.

As also already reviewed above, the competitive advantages arise as a response to encourage not only inside the companies but also in their environment which is why institutions became object of study and significant variables for analysing the advantages competitive companies and their sustainability. As was showed in the results, ultimately institutions play a fundamental role, showing that its performance is directly related to achieving and sustaining competitive advantage regardless of the country.

Perhaps one of the most important conclusions of this work is that being in a developed or developing country is a fundamental variable when calculating the probability of obtaining a sustainable competitive advantage, whether SEP or PSEP. Weaker macroeconomic environments, institutional weakness, social and political problems, are just some of the reasons why developing countries may have a disadvantage when compared with developed countries.

This study considers other variables in the environment of this type of countries, developed and developing,, controlling the effects that these variables can have in superior economic performance. These findings highlight the importance of the theoretical perspectives in strategic management and their notion of Superior Economic Performance and its sustainability. The hypercompetition factor must be considered, because it accounts for ongoing changes, as well as, how they affect the competitive advantages of firms. In this new era, in which rapid and intense movements characterize the environment, competitive advantages are more difficult to achieve, and, likewise, sustainability becomes more difficult for firms. This promotes the emergence of temporary advantages, particularly in emerging economies with developmental issues.

This study is cautious in drawing conclusions about the behaviour of abnormal returns depending on the industry where the firm is established. Future empirical work should explore this relationship in more depth. In addition, a bigger sample of firms should be used to address the limitations found in the sample.

Future research could develop issues pertaining to the internationalization of firms in emerging markets, analysing the internationalization process in developed and developing countries making a comparison between them. Firms could be classified in multinationals, subsidiaries or multicounty firm, this to compare how this factor and the institutional variables also affect the sustainability of a competitive advantage. With this classification, it’s possible to develop a deeper research that considers this variable of internationalization leading to conclusions about sustainability and the influence of the firm type (multinational or domestic) in the probability of achieving competitive advantages and sustain it them over time.

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