Relationship between the Business Environment and Business Strategy Types: Evidence in Peruvian Companies

Relación entre el ambiente de negocio y los tipos de estrategia de negocio: evidencia en compañías peruanas

Relação entre o ambiente de negócio ê os tipos de estratégia de negócio: evidência em empresa peruanas

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ABSTRACT

Various authors hold that the business environment is a variable with influence on corporate strategic decision-making. However, research does not delve into the influence of various types of business strategies. This empirical study, based on a survey of 99 service companies has the aim to review the influence of the business environment on the various types of business strategies. Additionally it examines organization characteristics, as a moderating variable of the relationship between environmental variables and strategy types. Our analysis reviewed two major components of the environment: complexity and uncertainty, and their interrelations with three types of business strategies: prospectors, analyzers and defenders. Statistical outcomes show that a complex business environment impacts the three types of strategy: prospectors, analyzers and defenders, while an uncertain environment only impacts companies enforcing prospectors' strategies. These findings show not all companies consider the uncertain environment when designing their business strategies. It was also found that organizational characteristics do not moderate the relationship between both variables.

Keywords: Business environment, business strategies, organizational characteristics,

RESUMEN

Varios autores sostienen que el ambiente de negocios es una variable con influencia en la toma de decisiones estratégica corporativa. Sin embargo, la investigación no profundiza en la influencia de varios tipos de estrategias de negocio. Este estudio empírico, basado en una encuesta de 99 compañías de servicio tiene como objetivo revisar la influencia del ambiente de negocios en varios tipos de estrategias de negocio. Adicionalmente, examina características organizacionales, como una variable moderadora de la relación entre variables ambientales y estratégicas. Nuestro análisis reviso dos componentes principales del ambiente: complejidad e incertidumbre y sus relaciones con tres tipos de estrategias de negocio: prospectos, análisis y defensores. Resultados estadísticos muestran que un ambiente de negocios complejo tiene impacto en los tres tipos de estrategia; prospectos, análisis y defensores, mientras que un ambiente de incertidumbre solo afecta compañías que empleen estrategias de prospectos. Estos resultados muestran que no todas las compañías consideran el ambiente de incertidumbre cuando diseñan sus estrategias de negocio. De igual manera se encontró que las características organizacionales no moderan la relación entre las dos variables.

Palabras clave: Ambiente de negocios, estrategias de negocio, características organizacionales.

RESUMO

Vários autores argumentam que o ambiente de negócios é uma variável com influência na tomada de decisões estratégica corporativa. No entanto, a investigação não aprofunda na influência de vários tipos de estratégias de negócio. Este estudo empírico, baseado em uma enquete de 99 companhias de serviço tem como objetivo revisar a influência do ambiente de negócios em vários tipos de estratégias de negócio. Adicionalmente, examina características

organizacionais, como uma variável moderadora da relação entre variáveis ambientais e estratégicas. Nossa análise revisou dois componentes principais do ambiente: complexidade e incerteza e suas relações com três tipos de estratégias de negócio: prospectos, análises e defensores; resultados estatísticos mostram que um ambiente de negócios complexo tem impacto nos três tipos de estratégia: prospectos, análises e defensores, enquanto que um ambiente de incerteza só afeta companhias que empreguem estratégias de prospectos. Estes resultados mostram que não todas as companhias consideram o ambiente de incerteza quando desenham as suas estratégias de negócio. De igual maneira, se encontrou que as características organizacionais não moderam a relação entre as duas variáveis.
Palavras-chave: Ambiente de negócios, estratégias de negócio, características organizacionais.

INTRODUCTION

Various authors hold that the business environment is a variable requiring ongoing research as it leads to and initiates strategic, dynamic and proactive corporate decision-making (Mohd, Idris & Momani, 2013; Wan & Hoskisson 2003; Aragón-Correa & Sharma 2003), and the creation of new products, services and processes (Damanpour & Evan 1984; Tushman & Nadler 1986). Christmann (2000) i.e. asserts that outcomes of business management will hinge on strategic decisions made regarding the use of resources and the ability to adapt to changes in the environment. The high level of uncertain environment caused by the fast speed of innovation technology along with an enormous amount of information, are changing the scenario and creating new opportunities, new businesses and, as a result, new players (Pisano, Pironti & Rieple, 2015).

The review of published studies shows significant evidence on the use of various strategies and ways to use resources in facing changes of environmental conditions. This is the case while it seems to be out of question that a sound understanding of the respective business environment is indispensable for a strategic management process (e.g. Lynch 2012, Wheelen & Hunger 2008). Two of the most investigated and applied business strategy theories are Porter (1980) and Miles, Snow, Meyer & Coleman (1978). Porter set forth three generic strategies which could be implemented successfully in a competitive environment, including cost leadership, differentiation and focus. The latter put forward the four types of strategies prospectors, analyzers, defenders and reactive, all of which are also compatible with various types of environmental behaviors.

A business environment can be studied by looking at its various components which have a differential influence on organizational responses (Olson, Slater & Hult, 2005). In line with this hypothesis, the environment has been approached taking into account uncertainty, complexity, heterogeneity, turbulence, munificence, instability and other characteristics. This study focuses on two of such components: uncertainty and complexity, which need to be differentiated, as they appear to have different management requirements (Tidd, 2001).

Additionally the literature review shows the need to explore the relationships between the environment and types of business strategies in order to better understand the interdependencies and potentially existing mutual impacts (Olson, Slater & Hult et al., 2005; Aragón-Correa & Sharma, 2003; Tidd, 2001; Han, Kim & Srivastava, et al., 1998; Damanpour, 1991 &1996).

The service sector is a major driver in the economy of countries, it covers around 60% of both gross domestic products and employment in Latin American countries and more than 70% in developed countries (Aboal, Garda, Lanzilotta & Perera et al., 2015; Wang, Widagdo, Lin, Yang & Hsiao, 2015). Results of service companies in developing countries indicate that while the service sector has been increasing, its rate of productivity growth is relatively low (Aboal, Garda, Lanzilotta & Perera, 2015).

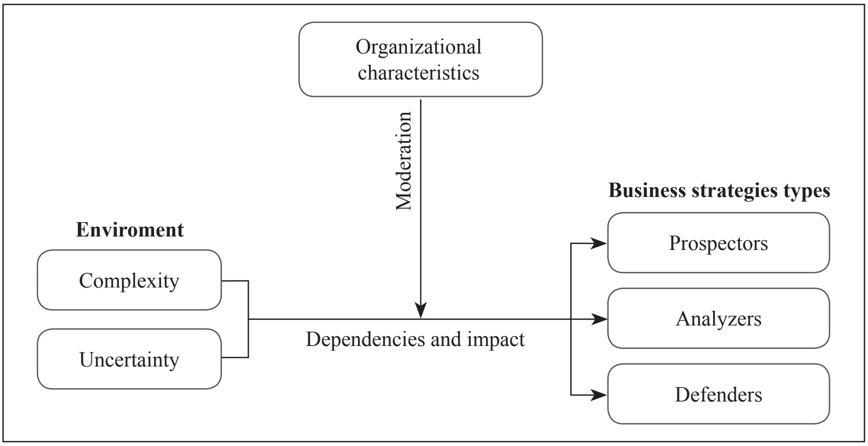
Authors argue that the business environment influences organizational performance through the proper implementation of business strategies. In this regard, management activities that are applied in Latin American countries are more a reproduction of the best practices or adaptations of management activities implemented abroad (Aboal, Garda, Lanzilotta & Perera, 2015), which are performed on a different business environment. For this reason, the relationship between the environment and the business strategies in developing countries may be different than developed countries, therefore it deserves special attention.

Due to these finding this study looks into the two types of business environments uncertainty and complexity, and the three types of business strategies, prospectors, analyzers and defenders due to their proven significance (Miles, 1978) and because their reliability and validity have been tested over time (Blumentritt & Danis, 2006). They also have a deep impact on strategic management and have been studied thoroughly e.g. by Hambrick (2003) and together with Porter's strategies

(1980) they seem to be primary keys in current business strategies.

Consequently, the purpose of this study is to review the influence of the business environment on the various types of business strategies put into practice by service companies in Perú. It also analyzes whether organizational features moderate the relationship between the environment and business strategies in a significant way. As elaborated above our paper focuses interprets the examined characteristics as dimensions, both for the environment (uncertainty and complexity), and the types of strategy (prospectors, analyzers and defenders). Figure 1 shows the proposed model.

Figure 1. Proposed study model



Source: Own.

1. LITERATURE REVIEW AND HYPOTHESES

1.1 Business Environment

The business environment is an external variable that impacts organizational strategies and the correlated strategic decision-making. Environmental changes are increasingly faster and continuously pose new challenges to companies (Barkema, Baum & Mannix, 2002) e.g. due the ongoing globalization process or the necessity to adapt new electronic means of communication. As companies operate in an increasingly competitive environment they must rethink and propose new strategies to enhance their competitive position (Mohd, Idris & Momani, 2013; Tushman & Nadler, 1986).

Various researchers have examined the environment taking into account various dimensions in many cases referred as external opportunities and threats. However, Mohd, Idris &Momani, 2013) and Suarez and Lanzolla (2007) focused on the environment's dynamism. Lee (2010), Subramanian, Kumar & Strandholm (2009), Olson, Slater & Hult, (2005) and Han, Kim & Srivastava et al. (1998) focused on market and technology turbulence. Aragón-Correa and Sharma (2003) examined uncertainty, complexity and munificence, as related to proactive corporate strategies. Koka, Madhavan & Prescott 2006) only looked at uncertainty and munificence. Subramanian, Kumar & Strandholm (2009), and Wan and Hoskisson (2003) also examined munificence in their studies. Miller (1991) looked at the uncertain and heterogeneous environment, while Duncan (1972) establishes a difference between complex and dynamic environment and Tidd (2001) focuses on uncertainty and complexity.

In most of these and other studies, environmental dimensions are grouped under two large concepts, although authors referred to them with different names. On the one hand, there are components related to the frequency of (unpredictable) changes in external factors what could be interpreted the description of uncertainty. On the other hand, there are those relating to the number of such external factors what expresses the complexity of the business environment.

The above points to the importance of examining the environment to understand and explain how companies come out with strategic decisions. This study takes examines the two environmental dimensions complexity and uncertainty, because adapting to them requires organizations to adopt the various approaches regarding both their decision-makingand management. Aragón-Correa and Sharma (2003) hold the greater the number of environmental factors perceived by manager, the more *complex* the business environment; and the greater the perceived turbulence in environmental factors, the more *uncertain* and risky will be business decision-making.

1.2. Business Strategies

Drucker (1954, 1999), Chandler (1962) and Ansoff (1965) contributed to the pioneer definitions of strategy to help managers take their decisions with regard to environmental behaviors and circumstances as a significant components (Ronda-Pupo & Guerras-Martin, 2012). They mostly focus on the concepts of “company”, “environment”, “actions” and “resources”, same which have been subjected to few changes and are still at the core of strategy definitions. Nevertheless, the emphasis on corporate performance enhancement has evolved (Ronda-Pupo & Guerras-Martin, 2012). Sumer and Turkey (2012) show that interest on business strategies increased after the strategy typology was proposed by Miles, Snow, Meyer & Coleman et al. (1978).

In line with the above, various studies – including Ronda-Pupo and Guerras-Martin (2012), Lee (2010), Wan and Hoskisson (2003) and Grant (1991) – characterize business strategies as a dynamic but long term oriented relationship of a corporation with its business environment.

With regard to the various types of business strategies, Borch, Huse & Senneseth (1999) posit the classic generic strategies put forth by Porter (1980): costs leadership, differentiation and focus; and the business strategies proposed by Miles, Snow, Meyer and Coleman (1978) proposing the classification in prospectors, analyzers, defenders, and reactive. Slater, Olson and Hult (2006) indicate that the approaches to explain business strategies elaborated by Miles, Snow, Meyer and Coleman (1978) and Porter (1980) are the two dominant axes of present strategy typologies.

According to Miles, Snow, Meyer and Coleman (1978) companies which implement prospectors business strategies encourage a more dynamic organizational corporate environment, develop new goods and market opportunities. Defender companies act in the opposite way, and are bent on preserving a stable organization in their search to defend and keep a market positioning through a limited set of goods. Companies that apply the analyzers strategies adjust their initiatives between the two ends, as they aim at minimizing risk while maximizing profits, and search only demonstrably viable new products and markets (table 1 shows key features of strategic typology that companies should solve). Finally, companies that practice the fourth or reactive type of strategy act inconsistently regarding their strategies, technology, structure and processes.

Table 1. Key features

Prospector	Analyzer	Defender
How to locate and exploit new product and market opportunities.	How to locate and exploit new product and market opportunities while maintaining a firm base of traditional products and customers.	How to "seal off" a portion of the total market to create a stable set of products and customers.
How to avoid long-term commitments to a single technological process.	How to be efficient in stable portions of the domain and flexible in changing portions.	How to produce and distribute goods or services as efficiently as possible.
How to facilitate and coordinate numerous and diverse operations.	How do differentiate the organization`s structure and processes to accommodate both stable and dynamic areas of operation.	How to maintain strict control of the organization in order to ensure efficiency.

Source: Miles et al. (1978).

Other authors have delved into the characteristics of the various types of strategies proposed by Miles, Snow, Meyer & Coleman (1978). Sumer and Turkey (2012), Aragón-Correa and Sharma (2003), Hambrick (2003) and Borch, Huse, Senneseth (1999) analyze the concepts of the four types of strategies. They described that defenders strategies are typical for businesses that prosper thanks to stability, confidence and efficiency. Prospector´s strategies are typical for businesses exploring new products and opportunities in markets, and encourage a more dynamic environment. However, companies applying analyzers strategies are typically more innovative than those with defenders strategies but more cautious than prospectors while, finally, reactive strategies are typical for businesses responding to the environment as a reaction and do not totally manage to move forward or prosper.

It can be stated that authors have reached a consensus about prospectors, analyzers and defenders strategies, as stable approaches, while the reactive strategy is regarded unstable. For this reason, neither Blumentritt and Danis (2006) nor Olson, Slater & Hult (2005) include the reactive strategy in their studies, which they regard as non-viable, difficult to sample and weak as a strategic proposal. Consequently, the reactive strategy will not be taken into account in this study.

Regarding these types of strategy, several researchers have confirmed their importance additionally. Ketchen (2003) has mentioned that Miles, Snow, Meyer & Coleman (1978) has been quoted in more than 1,100 research works, translated into several languages and its core tenets are being taught around the world. Paulson (2009) gives a review of over thirty years of literature and shows the wide variety of applications of these strategies.

1.3 Organizational Characteristics

Several studies have emphasized the analysis of organizational peculiarities because of their contingent effect on organizations capacities and resource management. Mintzberg (1980) proposed nine such characteristics: specialization, formalization, training, group, size, planning and control, linkage mechanisms, vertical decentralization, and horizontal decentralization. In a separate study, Damanpour (1991) proposed ten organizational characteristics: specialization, functional differentiation, management's attitude towards change, professionalism, decentralization, sources of technical knowledge, administrative intensity, inactive resources and internal and external communication, formalization, decisions centralization, and vertical differentiation.

Organizational structures and characteristics relate to the environment's behavior. Daft (2004) states that in a stable environment, organizational structures may be rigid and evidence vertical control, specialization, standardization and centralized decision-making. Instead, in rapidly changing environments, a more flexible structure is required, including strong horizontal coordination, little standardization and decentralized decision-making.

Frequently, the relationship between an organization's characteristics and the type of organization is not discussed explicitly. However, three of these characteristics, namely centralization, formalization and specialization, have received more attention because of their greater influence on strategic decision-making (Fredrickson, 1986). Olson, Slater and Hult (2005) have also addressed these three organizational characteristics.

1.4 Relationship Between a Complex Environment and Types of Business Strategies

Various studies about strategies have drawn the conclusion that their use is related to the environment's behavior (Ronda-Pupo and Guerras-Martin, 2012). Consequently, corporations should aim at getting information about their environment to improve their strategic understanding and thereby enhance the quality of their decisions (Forbes, 2007). In line with this proposal, Christmann (2000) holds companies should look for resources and competitive advantages to address various types of environmental patterns in an adequate way.

Corporate strategies respond differentially to environmental behavior patterns because they result from the perceptions of their managers, who are in charge of making decisions. Companies that do not act based on defined strategies are unstable in the way they adapt to environmental changes (Sumer & Turkey, 2012). On the other hand companies that consequently engage in strategic planning outperform those that do not (Andersen, 2000).

Many of the influences impacting companies come from the external environment, including their competitors, clients and new technologies (Jaworski & Kohli, 1993). All these may have an impact on their internal resources' management and strategic perspectives. With regard to the business strategies proposed by Miles, Snow, Meyer and Coleman (1978), Blumentritt and Danis (2006) identify several potential research areas. They mention organizations that adopt prospectors strategies put a greater emphasis on innovation, compared to those engaged in defenders and analyzers strategies, because the former seek to preserve their leading strategic positioning. On the contrary, businesses enforcing defenders strategies engage in conservative organizational behavior, and direct their activities to cost cutting and building good and long lasting client relationships.

In a complex environment, i.e. when a greater number of components is perceived, companies adopting prospectors strategies assume they will find greater business opportunities and potential for their activities, while companies adopting analyzers strategies will think in terms of identifying greater opportunities for successfully introducing their products and penetrating markets at a lower risk, and provided other companies have already explored those markets. Defenders companies, finally, see more opportunities in building client confidence and better develop their elected market segment.

In line with the above, we propose the following hypotheses:

- H1a: A complex environment is positively related to the prospectors business strategy type due to the greater opportunities for new and innovative products.
- H1b: A complex environment is positively related to the analyzers business strategy type due to reduced risk when trying to penetrate markets.
- H1c: A complex environment is positively related to the defenders business strategy type due to the assumption that customers will reward reliable suppliers with a long common history.

1.5 Relationship Between an Uncertain Environment and Types of Business Strategies

The high level of uncertainty environment caused by the fast speed of innovation technology and global competition are pushing organizations to create and use different business decisions in order to achieve competitive advantages and increase their market share (Pisano, Pironti & Rieple, 2015). An uncertain environment, defined by many sudden changes, creates the need for ongoing study by organizations. Companies that adopt prospector strategies permanently monitor environmental changes with a view at identifying new markets and adapt products and services to the customer´s new needs. Companies enforcing analyzer strategic practices also monitor environmental changes, develop new products, and penetrate new market segments but only if they identify viable conditions to minimize risks; consequently, they first observe their competitors in their respective operating market segments. Companies enforcing defender strategies would rather focus their operations in a market segment where they will introduce few products, and consequently they will monitor changes in their market segment to compete on pricing, and in sales and post-sale efficiencies.

In line with the above, we propose the following hypotheses:

- H2a: An uncertain environment is positively related to the prospectors business strategy due to the assumption that new market opportunities may arise, continuously.
- H2b: An uncertain environment is positively related to the analyzers business strategy due to the possibility to continuously identify new but proven market opportunities.
- H2c: An uncertain environment is positively related to the defenders business strategy due the ambition compete others with decisions based on superior monitoring results.

1.6 Organizational Characteristics as a Moderating Variable

The business environments influence organizational behavior differently because they have different management requirements. For this reason, business environment studies should be differentiated and companies in turn have to implement different strategies and organizational designs (Tidd, 2001). Olson, Slater & Hult et al. (2005) conducted an empirical analysis of the relationships between the business strategies proposed by Miles, Snow, Meyer &

Coleman (1978), and environmental behavior patterns and organizational characteristics, among other variables; the study demonstrates that each strategy type, requires different combinations of organizational structures and strategic behaviors for the success.

Miller (1987) also looks into organizational characteristics and relates them to the business environment. In a subsequent study, Miller (1991) identifies that an uncertain environment has a negative relationship with centralization of decision-making meaning that a centralized decision making processes may result in underperformance due to a lack of timely reactions on changes in the market. The studies under review show evidence of the relationship between the environment and the way organizational characteristics are designed adequately. In this respect, Aragon-Correa and Sharma (2003) remark that organizational design decisions are related to organizational resources and capacities.

The discussion suggests that companies should take into account the behavior of the business environment to establish business strategies. Nevertheless, they also need to consider suitable organizational characteristics to ensure the implementation of appropriate business strategies. In other words, firms that take into account the business environment might not be able to generate appropriate business strategies without possessing the specific organizational characteristics. Based on the above discussion, we propose the following hypothesis:

- H3: Organizational characteristics strengthen the relationship between the business environment and business strategies.

2. METHODOLOGY

2.1 Sample and Measurement

The sample was comprised of 99 service companies with operations based in Lima, Peru. These companies are allocated in the banking, insurance, commerce, transportation, technology, telecommunications, education, tourism and few other industries. All the sampled companies employed over 50 workers. The reason to select companies with such number of workers is the importance of company size to reach comparative findings. Gopalakrishnan (2000) mentions large companies cover a larger scope of operations than small and micro-companies, and this may influence the workers' perception of the companies where they work. Consequently, in this study, the selected sample is comprised only of intermediate and large companies. Information from small and micro-companies would have introduced excessive answer dispersal.

Service companies were chosen as the target sample because this industry employs over 60% of the economically active population in Peru (INEI, 2012). Also on a global scale the importance of the service industry is growing continuously (NBLA, 2013; WB, 2015). This fact indicates that this industry is very likely to provide results with a strong significance not only restricted to the region chosen as sample area. To obtain the data, we interviewed in person 187 workers from various service companies based in Lima, Peru. The companies' details were gathered at the interviews and subsequently checked against information publicly available on the internet. Poorly filled out and incomplete surveys were discarded, resulting in 99 valid surveys, representing an equal number of individual companies, i.e. a rate of 52.9% valid responses. Respondents filled positions at various hierarchies within their organizations: 29 were managers, 51 were heads and supervisors, and 19 were analysts. The information was gathered over four weeks with attention paid to avoid significant differences between the answers provided by the first and last respondents.

The questionnaire used to gather the data for this study aimed at obtaining the respondents' perceptive responses to each variable. The use of perceptive answers is important because it allows comparing findings regarding different subsectors. The use of perceptive response questionnaires is based on applications by Olson, Slater and Hult (2005), Tegarden, Saranson, Childers and Hatfield (2005), and Gopalakrishnan (2000).

One single questionnaire was designed to evaluate all the study variables: uncertain environment, complex environment, organizational characteristics and types of business strategy, i.e. prospectors, analyzers and defenders. Questions were presented using a five-point Likert response scale, as also used by Tegarden, Saranson, Childers and Hatfield (2005). The average of each variable's components was used in measuring responses.

Questions on the uncertain and complex environment variables were prepared exclusively for this research. Concepts proposed by Olson, Slater and Hult et al. (2005) and Jaworski and Kohli (1993) were taken into account, and a rigorous tool validation process was followed, comprised of the following steps: a) review of each variable's concept definition; b) survey question drafting; c) review of survey by a survey-design expert; d) pilot testing of the tool's reliability and validity; e) execution of the interviews.

The questions aimed at identifying organizations' characteristics and business strategy types were adapted from surveys used in prior studies. As regards organizational characteristics, this paper used the tool prepared by Olson, Slater and Hult et al. (2005) and Yamakawa and Ostos (2011). To identify business strategies, we applied Blumentritt and Danis' (2006) proposal. The following steps were used: a) Translation of the original survey from English into Spanish by a professional translator; b) Reverse translation from Spanish into English of the questionnaire translated in the prior stage by a different professional translator; c) Review of the survey by an expert in interpretive translation for adapting certain words to the local culture; and d) Pilot testing to ensure the tool's reliability and validity.

2.2 Study Variables

In this study, the definitions of uncertain and complex environment were taken from Tidd (2001). Environment is defined as the behavior of the external variables (clients, competitors, and technology) having an impact on organizations. The number of these variables determines the environment's complexity, while changes in their frequency create environmental uncertainty. Otherwise said, an uncertain environment results from the frequency in changes of external variables, while a complex environment is defined by the number of external variables (Aragón-Correa & Sharma 2003; Tidd 2001).

Organizational characteristics are defined as the types of work coordination within an organization (Fredrickson 1986), such as formalization, specialization and centralization.

Business strategies are the dynamic relationships or ways in which companies respond to the environment (Ronda-Pupo & Guerras-Martin 2012). The business strategies reviewed in this study include prospectors, analyzers and defenders strategies proposed by Miles, Snow, Meyer & Coleman et al. (1978).

2.3 Valid Study Variables

Table 2 shows the statistical results of our analysis of the measured study variables, including averages, standard deviation, reliability (Cronbach's Alpha) and factor loadings.

Table 2. Summary statistics of the measurements´ analysis

Variables	Mean	Standart deviation	Factor loadings	Crombach`s Alpha
Environment	3.67	0.58	0.746 - 0.939	0.843
Complex environment	3.40	0.73	0.763 - 0.852	0.826
Uncertain environment	3.94	0.67	0.746 - 0.939	0.884
Organizational characeristics	3.57	0.71	0.621 - 0.842	0.839
Business strategies	3.58	0.78	0.730 - 0.880	0.870

N: 99 surveys

Source: Own.

To determine the reliability of the study's variables, we calculated Cronbach's Alpha. For the environment, uncertain environment and complex environment, the results were 0.843, 0.884 and 0.826, respectively; for the organizational characteristics variables, the value reached 0.839 and, finally, business strategies yielded 0.870. In all cases, figures are above the typically accepted 0.7 value (Klein, Astrachan & Smyrnios, 2005).

To determine the variables' validity, we performed a varimax rotation factor analysis to verify the environment's two dimensions: the uncertain environment and the complex environment. The uncertain environment was comprised of four items, with the following factor loadings: 0.939, 0.746, 0.889, and 0.846, and 39.39% percent variance. The complex environment was also comprised of four items showing the following factor loadings: 0.782, 0.852, 0.776, and 0.763, and 33.31% percent variance. These items show a high reasonable factor loading, both confirming the uni-dimensionality of the two components and warranting the two resulting groups. Organizational characteristics are comprised of five items, with factor loadings of: 0.793, 0.815, 0.621, 0.828, and 0.842. Business strategies are also comprised of five items, with the following factor loadings: 0.763, 0.855, 0.880, 0.824, and 0.730.

For the multivariate analysis, all variables in this study passed the normality Kolomogorov-Smirnov's statistical test, demonstrating the sample comes from a normal distribution population. Likewise, the variables met the homoscedasticity requisite as measured by Levene's test, indicating the variances of the groups under study are homogeneous.

To identify the companies' business strategies, we used Blumentritt and

Danis's method (2006). Surveys were designed so items could be ranked on a five-point Likert scale, where 1 stands for "total disagreement" and 5 for "total agreement", so that higher scores on the scale are associated with the prospectors business strategy; low scores with the defenders business strategy, and scores around the average reflect an analyzers strategy.

In line with the above, companies enforcing prospectors strategies were those with averages on the Likert scale equal to or higher than the average, plus one standard deviation. Companies enforcing analyzers strategies were those whose results fell between the average less and plus one standard deviation. Defenders strategy companies are those with results equal to or lower than the average less one standard deviation.

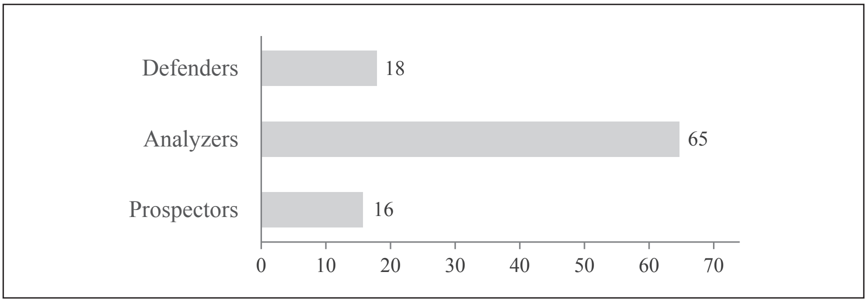
Based on these premises, data was tallied and then run through SPSS application. Business strategies yielded a 3.58 average with 0.78 standard deviation. This data helped to classify strategy types. Table 3 shows the average of these groups on the Likert scale and the frequency; Fig.2 also shows the frequency by business strategy type. Prospectors strategies were reflected by averages equal to or higher than 4.36 (16%). Analyzers strategies were reflected in averages above 2.8 and below 4.36 (66%); while defenders strategies reached averages lower than or equal to 2.8 (18%). In line with the calculation method, analyzers strategies were found to be more frequent than prospectors and defenders strategies. This categorization also reflects findings from prior studies (Blumentritt & Danis, 2006), further supporting the cohesiveness of the approach adopted to identify strategy types.

Table 3. Frequency of companies by type of business strategy

Business strategy	Average Likert scale	Frecuency	Percentaje
Prospectors	>=4.36	16	16%
Analyzers	>2.80 <4.36	65	66%
Defenders	<=2.8	18	18%
Total		99	

Source: Own.

Figure 2. Frequency of companies by type of business strategy



Source: Own.

3. RESULTS

3.1. Relationship Between a Complex Environment, Uncertainty and Business Strategies K

Hypotheses H1a, H1b and H1c propose the environment's complexity is positively related to companies enforcing prospectors, analyzing and defenders strategies, respectively. Table 4 shows these relationships are fully supported. The complex environment parameter, for the prospectors business strategy (H1a) is positive and significant ($\beta = 0.167$; $p < .05$); for the analyzers business strategy (H1b), the parameter is also positive and significant ($\beta = 0.244$; $p < .05$). Finally, the parameter is also positive and significant ($\beta = 0.274$; $p < .05$) for the defenders business strategy (H1c). Consequently, hypotheses H1a, H1b and H1c are positively supported.

Table 4. Statistical results of the enviroment - Business strategies model

	Business strategies types		
Predictor variables	Prospectos	Analyzers	Defenders
Complex environment			
ß	0.167 (**)	0.244 (**)	0.274(**)
R^2	0.296	0.124	0.296
F	5.89(**)	8.95(**)	6.73(**)
Uncertain environment			
ß	0.226(**)	n.s.	n.s.

Continúa

	Business strategies types		
Predictor variables	Prospectos	Analyzers	Defenders
R^2	0.249	---	---
F	4.64(**)	---	---

(*) p < .10; (**) p < .05; ns = p > .10
N = 99 surveys
Source: Own.

Hypotheses H2a, H2b and H2c posit environmental uncertainty is positively related to companies enforcing prospectors, analyzing and defenders strategies, respectively. Table 4 shows these relations are partially supported because the uncertain environment parameter for the prospectors business strategy (H2a) is positive and significant (β = 0.226; p < .05). However, against expectations, the estimation for the analyzers (H2b) and defenders (H2c) strategies are not statistically significant (β = n. s.). Consequently, H2a is supported while H2b and H2 care not.

3.2. Organizational Characteristics as a Moderating Variable of the Relationship Between the Environment and Business Strategies

A conceptual explanation of the moderating variable is found in Baron and Keny (1986), while Quiles et al. (2006) provide a solution to observe the process of hierarchical relationship with a moderator. Before engaging in statistical computing, the variables were standardized (i.e. changed into Z scores) to reduce potential multicolinearity (Quiles et al. 2006). Statistical results are shown in Table 5.

Tabla 5. Three-step hierarchical regression analyses of organizational characteristics as moderator

Variables	ß	R^2	ΔR^2	F
Step 1		0.447	0.447	78.38(**)
Environment	.67(**)			
Step 2		0.480	0.033	44.32(**)
Environment	.57(**)			
Organizational characteristics	.21(**)			

Continúa

Variables	ß	R^2	ΔR^2	F
Step 3		0.480	0.000	29.24
Environment	.57(**)			
Organizational characteristics	.21(**)			
Environment +Organizational characteristics	n.s.			

dependent variable: Business strategies

(*)p<.10;(**)p<.05;n.s.=p>.10

Source: Own.

Hypothesis H4a proposes the organizational characteristics variable moderates the relationship between the environment and business strategies. To obtain results, we defined a product of the environmental variables (independent variable) and organizational characteristics (proposed moderating variable) that would represent the interaction between the two variables. A three-step hierarchical regression was run through SPSS, taking the business strategies as dependent variables.

In step 1 of the hierarchical regression analysis, we introduced the environmental variable, same which showed high significance ($b = .67$; $p < 0.05$). In step 2, we added the organizational characteristics variable. In this step, the environmental variable was also significant ($b = .57$; $p < 0.05$), as were the organizational characteristics variables ($b = .21$; $p < 0.05$). In step 3, we added the interaction of the environment and organizational characteristics variables (moderating variable) but no significant results were obtained (β = n. s.), although the environment and organizational characteristics continued to show significant results. Consequently, hypothesis H3 is not demonstrated.

4. DISCUSSIONS AND CONCLUSIONS

4.1. Theoretical Contributions and Implications

With the purpose of examining the relationship between the environment and the various types of business strategies and analyzing the behavior of organizational characteristics as a moderator variable of this relationship, we analyzed empirical data and confirmed the existence of evidence of the positive influence of the environment on business strategies, but not of the moderating influence of organizational characteristics on the relationship between the environment and business strategies.

With regard to complex environments, statistical results are significant for the three types of business strategies: *prospecting*, *analyzers* and *defenders*. For companies resorting to prospectors strategies, the greater the number of clients, competitors and technological activities they perceive as their characterizing markets, the more enticing will be the environment and the greater the opportunities to explore and develop new products and market segments. For companies engaging in analyzers strategies, the number of clients, their competitors and technological activity are regarded as a good opportunity for competing in markets, provided other companies have entered those markets with relative success, because these companies seek to mitigate risks. Defenders companies also regard the number of clients, their competitors and technological activity as an opportunity because they will be allowed to identify and/or preserve new market segments they deem convenient, although only through a limited range of products. Such positive relationship of the complex environment with business strategies fits arguments by Sumer and Turkey (2012) and Olson, Slater & Hult et al. (2005) indicating companies will prepare stable strategic behavior plans depending on how they perceive the environment's behavior.

As regards the uncertain environment, results show a high significance in using prospectors business strategies. However, this is not so regarding analyzers and defenders business strategies. This means when there are many perceived changes in customers, competitors and technology's behaviors, only prospectors companies will think it is convenient to explore new products and market opportunities. This observation matches conclusions by Aragón-Correa and Sharma (2003) that prospectors companies will anticipate and put into practice preventive actions, rather than respond reactively. Analyzers and defenders companies, on the contrary, will not venture into an uncertain environment because they are interested in mitigating risk. Instead, they will focus on preserving stability and protecting their market segment.

Results also show a highly changing environment encourages prospectors strategies but restricts analyzers and defenders strategy development. Koka, Madhavan and Prescott (2006) propose the lower the uncertainty of the environment, the more predictable decision-making becomes, and companies have more clarity in the cause-effect relationship of the decisions they make.

Organizational characteristics do not exert a significant moderating influence on the relationship between the environment and business strategies. This assumes that, when implementing business strategies, companies take into account the environmental behavior but do not regard formalization, specialization and centralization as factors that strengthen the relationship between the environment and business strategies.

We propose an academic research model including relationships at the level of dimensions both for the environment and business strategies whereby we may confirm our proposition that a complex environment impacts the three types of business strategies (prospecting, analyzers and defenders) while an uncertain environment impacts positively only prospectors strategies, but not analyzers or defenders strategies.

We also confirmed the perception of the complex environment encourages the three types of business strategies. In an uncertain environment, managers prioritize prospectors' strategies, but not analyzers or defenders ones. This is an approach that managers should reconsider. Although it is true that an unstable environment increases risk, it should not avoid it because it can lead to, at least, a conservative plan of action (Subramanian, Kumar & Strandholm, 2009) and, additionally, allow targeting specific markets (Aragón-Correa & Sharma, 2003). If companies do not take into account the uncertainty of their environment, their own decisions will be unstable and oftentimes businesses may be limited to copying their more successful rivals instead of creating a sustainable own identity (Sumer & Turkey, 2012).

Limitations and Future Research

Findings of this study should be reviewed taking into account the following limitations and options for future research: the sample for this research comes from the service sector and, consequently, results generically pertain to that industry and should not be extrapolated to the wider sector's industries, such as banking, insurance, trade, transportation, technology, telecommunications, education, tourism, and others. Another limitation comes from the size of companies, i.e. companies employing at least 50 workers, for which reason results cannot be extrapolated either to small companies. Gopalakrishnan (2000) holds the size of companies leads to different types of information from survey respondents. It has also to be taken into account that the current sample of companies surveyed is limited to companies based in Lima, Peru.

Whether the findings can be transferred also to other regions has to be proven by additional studies with a larger geographical scale.

When gathering data, only one respondent was interviewed at each company. Other studies such as Olson, Slater & Hult et al. (2005) also collected data in a similar fashion. However, future studies should increase the number of respondents from each company in order to level out personal preferences or biases.

Although we have confirmed that for service companies the business environment generally as well as complex and uncertain types of environment, impact business strategies to a certain extent, future studies should verify these results in other industries, such as manufacturing and mining. In this respect, we follow Langerak, Hultink & Robben (2004), according to whom conclusions from a sample study can not be generalized without additional validation.

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