

INNOVATION AND PERFORMANCE IN IBERO-AMERICAN SMALL BUSINESS

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ABSTRACT

In a business environment with a high level of uncertainty and in a new era of economical globalization of the 21st century, the acquisition of higher competitive advantages and the increase of business revenue have become one of the most important priorities of enterprises, mostly in small and medium-size ones. In order to achieve these goals, organizations have to adopt and implement innovation activities as part of their routine because the level of performance depends mostly on the ability of enterprises to develop and manage innovation. Thus, with a sample of 1,970 small and medium-size enterprises of 20 Ibero-American countries, this research analyzes the relation between innovation and the level of business revenue. The results obtained show that there is a strong influence of innovation in the level of performance of small and medium-size enterprises.

Key Words: *innovation, performance, small business*

Introduction

The concept of innovation in organizations is getting more widespread due to numerous papers done by researchers, scholars and professionals in the field of business sciences, mostly at the beginning of the 1990s; this shows the big interest produced by this topic (Cooke, 1996). Thus, it can be found in the literature examples of success where innovation has increased significantly the firm's performance by applying innovation to technology (Rosenberg, 1982). Therefore, most of the research about the implementation of innovation in the business field has focused, firstly, in the analysis of processes and the development of competences. Secondly, in the creation, transformation and employment of knowledge obtained from the use of the concept of innovation (Lundvall, Johnson, Andersen & Dalum, 2001).

In this regard, innovation has become nowadays in one the main strategies used by a big number of organizations to achieve not just expansion and development but also a higher level of business performance (Krause, Jansen, Kind & Rothenburg, 2007). These two concepts are

essential in the current working ways and strongly influenced by the globalization present in the industrial world. When these concepts are integrated into the enterprise's operations they are returned to society in the form of new products, working systems and new ways to manage resources (Krause et al., 2007).

On the other hand, it can be seen in the literature that small and medium-size enterprises (SMEs) belong to the business sector that has the biggest needs to achieve a significant stimulation of the level of performance in their operations and, in this way, obtain higher levels of competitiveness that allow them to last and develop in a market that is more competitive every time (Mechling, Pierce & Busbin, 1995). However, most published papers that have analyzed the relation between innovation and performance have taken place in an environment of large enterprises (Canada & Sullivan, 1990). Until recently, some investigations have been focusing in small enterprises (Forsman & Temel, 2011).

Similarly, it can also be seen in the literature a higher frequency as a characteristic of SMEs the difficulty to get a higher performance, especially when compared with large enterprises, because SMEs usually have a smaller infrastructure and less resources to obtain relevant results regarding their competitors, as well as being affected by the lack of flexibility and slow reaction to the needs of their customers (Blili & Raymond, 1993). However, even when these conditions vary significantly from one country to another, there is a need to invest economic resources in innovation activities to reverse such conditions and create suitable conditions to increase the level of performance (Bodie & Briere, 2011).

In order to determine if the steps taken have the benefits expected in the operations of SMEs, it is necessary to consider their level of performance which is useful not only to verify whether it has improved or not but also to prove if it happens to a higher rate than their competitors (Ivanov, 2011), even when the obtained results do not necessarily match with their current situation. Nonetheless, there is empirical evidence in the literature that shows that the adoption and implementation of innovation activities in SMEs creates a higher level of performance (Radnor & Bares, 2007).

With this set of ideas, and considering the suggestions of Forsman and Temel (2011) to focus the researches about the relation between innovation and SMEs performance, the main contribution of this research paper is the analysis of the existing relation between innovation activities and SMEs performance. For this, an empirical research will be carried out by applying linear regression analysis in 1,970 SMEs of 21 Ibero-American countries. The rest of the paper has been organized in the following way: the second section makes a review of the theoretical framework, the previous empirical researches and the establishment of the research hypotheses; the third section presents the methodology, the sample and the variables used; the fourth section analyzes the results obtained and, in the final section, the main conclusions and the discussion of the empirical research are presented.

Literature Review

The importance of SMEs as an essential element for growth and development of the economy and society has been extensively acknowledged in the current literature (Bruque & Moyano, 2007; Zeng, Xie & Tam, 2010; Forsman & Temel, 2011; Apaydin, 2011; Parida, Westerberg & Frishammar, 2012). Similarly, the globalization of economy and the high level of competitiveness in the markets in this century, are stimulating a higher level of competitiveness not only among SMEs but also between them and large enterprises. Thus, innovation is seen today as one of the main activities and strategies that SMEs are adopting not just to get a higher level of performance, but also to survive in the markets in which they participate (Heunks, 1998; O'Regan et al., 2006; Maldonado et al., 2009).

In this regard, there has been an important increase in the number of researches that analyze the existing relation between innovation and enterprises performance in the last decade (Forsman & Temel, 2011). However, there are different aspects that have not yet been fully analyzed and discussed in the literature. For this reason, it is necessary to analyze them more deeply. Thus, the nature of innovation and its relation with performance has been analyzed by comparing incremental and radical innovation, continuous and discontinuous innovation as well as evolutionary and revolutionary innovation (Garcia & Calantone, 2002). These analyses have provided empirical evidence of different sorts because some findings were positive, others were negative and some others did not find any relation between the two constructs (Heunks, 1998; Freel, 2000; Rochina-Barrachina et al., 2010).

Another important aspect that has been analyzed is the relation between the different types of innovation and business performance. An example of this can be found in researches of innovation in products and services that have been associated to the rise in sales of organizations whereas innovation in processes has been linked to productivity (Cainelli et al., 2006; Avlonitis & Salavou, 2007). Similarly, different researchers and scholars have considered that innovation among enterprises can create a monopolistic position, which can be used to increase eloquently the business performance. By contrast, other researchers have come to the conclusion that the innovation projects adopted in enterprises usually require big financial resources (Cainelli et al., 2006).

Likewise, there are other researches published in the literature that establish that the economical conditions of the market in which the enterprises participate, mostly SMEs ones, can affect significantly the innovation activities and consequently the performance of organizations (Mench, 1975). In a similar trend, Neely et al. (2002) came to the conclusion in their research that innovation does not necessarily imply the attainment of a higher level of business performance, mainly in SMEs ones, since revenue is not only created by the different innovation activities adopted and implemented by the organizations. It is rather a series of activities as well as internal and external factors of the organization.

Moreover, there is also in the literature other theoretical and empirical researches that have associated in a positive and direct way innovation and business Performance (Acs & Audretsch, 1988), between the types of innovation and performance (Abrahamson, 1991) and between

innovation and performance affected by numerous variables that act like moderators (Zott, 2003; Bisbe & Otley, 2004). Similarly, there are only a few published researches that have analyzed the existing relation between some types of innovation and the performance in SMEs of different countries (for example Choi et al., 2009; Forsman & Temel, 2011; Apaydin, 2011; Parida et al., 2012), which found a positive and significant relation between the two constructs.

Hence, innovation is considered in the literature as a substantial variable that assists in the progress of the different internal and external activities of the organization; its adoption and implementation is usually associated positively to business performance in terms of growth, profitability and productivity (Heunks, 1998; Tidd, 2001). Similarly, the growth of companies has been operationalized by several researchers, scholars and professionals in the field of business sciences as a measurement of growth for both sales and profits generated by the organizations. There is also at present a special interest from the government authorities to measure growth based on the number of employees (Forsman & Temel, 2011).

On one hand, profitability has been normally measured by using the marginal profit, the absolute earning and the margin by employee that enterprises have. The margin by employee has been commonly used as a measurement of productivity, which reflects internal efficiency of the organization (Roper, 1997; Freel, 2000; Kannebley et al., 2010). Similarly, the expectations about the growth that companies have, mainly the growth in sales, has been associated positively and significantly with the development and innovation of new products (Verhees et al., 2010). However, there is also empirical evidence in the current literature that show the existence of non-significant results that show serious conflicts in the relation of these two variables (Forsman & Temel, 2011).

On the other hand, some researchers, scholars and professionals in the field of business sciences have identified in their corresponding areas a positive and significant relation between innovation and sales whereas other researchers have not found major differences between innovative enterprises and those that are not (Geroski & Machin, 1992; Roper, 1997). Likewise, Freel (2000) concluded in his research that growth can be analyzed and discussed through a wide spectrum of classifications. For example, enterprises can be grouped depending on their downtrend growth, a steady growth and an uptrend growth so enterprises can be considered as innovative and with a high level of performance and the non-innovative enterprises with low performance in terms of sales growth.

In this regard, the expectations about growth imply development and innovation of the products made by SMEs whereas the expectations about the productivity of organizations enable the development and innovation of processes (Forsman & Temel, 2011). A clear example of this can be found in the research carried out by Huergo and Jaumandreu (2004), who found a positive and significant relation between the processes of innovation and productivity. Similarly, Rochina-Barrachina et al. (2010) came to the conclusion that the adoption and implementation of innovation in processes do generate a higher level of productivity approximately for a year in small enterprises whereas in big organization this level of productivity lasts much longer.

Therefore, both productivity and growth are two constructs that are closely related in a positive and significant way in the economical benefits of enterprises, especially in SMEs (Forsman & Temel, 2011). In similar trend, Geroski and Machin (1992) concluded that enterprises that are more innovative achieved a higher level of economical benefits than those that are not. Similar results were found by Freel (2000), in his research by finding a positive relation between innovation and economical benefits as well as the fact that the size of enterprises is a determining factor of this relation. As a result, innovation in SMEs can have good results about growth and efficiency in companies but not immediate results in the area of economical benefits (Heunks, 1998).

Hence, the level of economical benefits of organizations is closely related to the different innovation activities, which help both SMEs and large enterprises to obtain economical benefits based on their capacities to carry out various innovation activities simultaneously (Freel, 2000). Similarly, Freeman (1994) came to the conclusion in his research paper that enterprises that achieved a higher level of performance were those that got a higher capacity in the adoption and implementation of innovation activities, as well as those companies that improved considerably their innovation flows inside and outside of the organization.

Finally, the existing relation between innovation and performance in SMEs has become a contemporary research topic for some investigators (Maldonado, Martinez, Hernandez & Garcia, 2011), because the implementation of the improvements required by most enterprises come from this type of procedures, both in technical and managerial aspects (Bardhan, Mithas & Lin, 2007). This is why it is important to perform empirical investigations that analyze the relation between these two constructs (Guilliland & Manning, 2002). Therefore, at this moment, it is possible to establish the hypothesis that links innovation and business revenue.

H1: Higher level of innovation, higher level of performance

Research Methodology

In order to validate the established hypotheses in this paper, an empirical investigation was carried out in the SMEs of Ibero-America, by taking as contextual reference 1970 SMEs surveyed in 20 countries of Ibero-America in 2009. The survey was carried out in two parts: one related to Innovation Activities made by SMEs in the last two years and the other related to business performance.

Dependent Variable

A series of eight traditional indicators have been used in order to measure the performance of SMEs. Such indicators were created from the perception of the manager of the enterprise about its competitive position regarding market share, profitability and productivity (AECA, 2005). These eight questions were measured with a Likert-type scale of five points from 1 = totally disagree to 5 = totally agree as limits.

Independent and Control Variables

In order to measure innovation, the managers of the 1,970 Ibero-American SMEs were asked to say if the organizations had carried out innovations in the last two years at the moment of answering the survey (1 = Yes and 2 = No) in products/services, processes and management systems. The enterprises that mentioned that they had actually performed innovation activities were asked to evaluate the degree of importance of such innovations (1 = Not important and 5 = Very important, as limits) because the subjective approach of the perception of innovation made by the manager is the most appropriate one in the case of SMEs (Hughes, 2001; Garcia, Martinez, Maldonado et al., 2009).

Size: This variable was measured with the average number of employees of the enterprises in 2009.

Age: It was measured with the number of years between the creation or beginning of activities and the date when the survey was carried out.

Research Results

In order to verify the existing relation between innovation and the performance of SMEs and to corroborate the established hypothesis in this research, a linear regression analysis was made with the MCO with the following model:

$$Performance_i = b_0 + b_1 \cdot Innovation_i + b_2 \cdot Size + b_3 \cdot Age + \varepsilon_i$$

Where, *Innovation_i* indicates the degree of importance of innovation in products/services, processes and management systems. *Performance_i* corresponds to the level of world economical achieved by enterprises. *Size*, average number of employees and, *Age*, years of the enterprise.

Table 1: Relation between Innovation and Performance (n = 1970)

Variables	Performance
Innovation	0.104*** (4.580)
Size	0.018 (0.769)
Age	0.030 (1.315)
Highest VIF	1.058
F Value	7.998***
Adjusted R ²	0.112

Under each standardized coefficient, in parentheses, value of statistical t-student.

*= p ≤ 0.1; **= p ≤ 0.05; ***= p ≤ 0.01

Table 1 shows that a higher use of innovation inside SMEs has a positive influence and in a very significant way in the performance (standardized coefficient = 0.104 and $p < 0.01$), which confirms the established hypothesis. However, the size and age do not affect the level of performance of a SME since the variables were not statistically significant (standardized coefficient = 0.018 and 0.030, respectively). The validity of the model is compared with the adjusted R² that resulted in 0.112 and the F value of 7.998 ($p < 0.01$). The independent variables have a variance inflation factor (VIF) close to 1 (1.058) which leads us to dismiss the presence of multicollinearity.

Discussion

Actually, more and more enterprises are nowadays adopting and implementing innovation activities as part of their business strategies, because this allows them not only to improve their level of performance significantly, but also to survive in a market that is constantly more globalized and competitive. Similarly, the SMEs that are not considering innovation as part of their everyday activities will have severe problems to endure in the markets in which they participate. It will be very complicated to reach a good level of competitiveness, their rank in the market will be lower, they will have difficulties attaining competitive advantages regarding their main competitors and they will disappear from the market relatively soon considering that their level of business performance will be every time smaller.

From all the innovation activities developed in the enterprise, managers of SMEs will have to prioritize the activities related to the innovation of products and/or services because this will enable them to modify their products and/or services to the preferences and needs of customers, as well as current and future consumers since the existing market trend is to customize more and more such products and/or services to the necessities of consumers. Therefore, these activities will help organizations to achieve not only competitive advantages regarding their main competitors, but also a better market position which will result in a higher level of performance.

Similarly, in order to improve the odds of getting a higher level of innovation in products and/or services, managers will also have to develop innovation activities in processes because the innovation of products and/or services of SMEs need also in turn a significant improvement in the production processes. Moreover, managers will also have to implement all the actions that lead organizations to obtain innovation in their management systems, mostly in the marketing of the new or improved products and/or services because these actions will help them to increase significantly their participation in the market and their level of business performance.

Additionally, if managers are willing to improve considerably the level of performance in their organizations, then, as a first step, they will have to create the necessary conditions to increase and develop innovation activities in every area or department. Secondly, they will have to create and implement a program of formal and informal training for their workers and employees, in order to be more efficient in the use of information technologies that they have, reduce the costs of production and distribution, improve significantly the quality of their products and/or

services, enhance production processes and make better substantially the management of the organization. All this will facilitate the increase in the level of business performance.

Finally, this research has a series of limitations that are important to consider presently. The main limitation is the sample because only the SMEs with 20 - 250 workers were taken into account and the surveys applied in each country had an average of 100 enterprises. Future researches should consider smaller enterprises and increase the number of surveys for each country in order to corroborate the behavior of the model. Another limitation can be found in the variables used because only a part of the information of innovation activities and performance was considered. In future researches it could be interesting to use a different type of scale or more quantitative variables. A final limitation is the fact that the survey was directed only to managers or owners of SMEs, because it was assumed that they have enough knowledge of the variables use. For this reason, the results may not necessarily show the truth about the organization.

Conclusions

The results obtained in this empirical research allow us to establish two fundamental aspects. Firstly, if Ibero-American SMEs want to keep or improve their level of business performance, then it will be necessary to: a) adopt and implement innovation activities in the whole organization as part of their everyday assignments, and b) make innovation one of the basic strategies of enterprises because this will help them to improve or to innovate their products and/or services to adapt them to the preferences, needs and requirements of customers as well as final consumers.

Secondly, innovation activities will have to be oriented not just to products and/or services of enterprises but also to processes and management systems. To achieve this, the organizations have to create a working environment in which both workers and employees can come up with their ideas, work in teams and increase their abilities and skills. Therefore, high management will have to design and implement a training program for their workers and employees so they can carry out laboring activities in teams so they can give each other the abilities and knowledge obtained. This will make that organization create a synergy of collaboration and implement an innovative, organizational culture that improves the level of performance in SMEs.

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