Innovation and knowledge creation. Perspectives on the SMEs sector

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Abstract

SMEs account for over 99% of all European businesses and in recent years they have proved themselves to be the engines of economic growth, along with the main sources of new employment. Today’s competitive environment calls for a dynamic, self-sustaining culture of innovation within SMEs in order for them to be better equipped to face future challenges. Nowadays, an emphasis on innovation represents an important factor of competitiveness for the business environment, especially in what concerns the small and medium enterprises sector. The paper looks at SMEs approach to learning and innovation. The first research direction is oriented towards the learning dimension, with an emphasis on the internal and external sources for learning in SMEs, which are used in the innovation process. A second research direction is focused on the main types of innovation SMEs engage in along with some of the obstacles or constraints identified within the innovation process.

The practical implications of the study for innovative SMEs are twofold. Firstly, in what concerns the organizational learning dimension, the need for SMEs to focus on strengthening the collaboration with Universities (higher education area) as the research pointed out that only few SMEs rely on Universities and educational institutions in acquiring knowledge. Secondly, to focus on innovation and manage innovation activities as a core competency inside the firm in relation to designing a process of organizational change in SMEs, which should enhance drastically the performance of such initiatives.

Keywords: innovation, obstacles, SMEs

1. Introduction

The research area of innovations has caught the attention of both researchers and policy makers, who sought to answer various questions in order to identify directions for developing enterprises’ capacity to innovate. One important direction in this regard is to highlight the importance of linking knowledge creation to developing and sustaining the innovation capacity of the enterprises.
The findings of the paper are based on the doctoral research carried out on the innovation process within Romanian SMEs. The paper contributes in what concerns offering new insights related to the knowledge creation process for innovation in SMEs from the perspective of the main sources of learning used in the innovation process. It also looks at the innovation process in terms of the specific type of innovation SMEs engage in, as well as the obstacles to innovation they experience within the process of innovating.

2. Literature Review
Nowadays, companies of all sizes seek to innovate in order to gain competitive advantages, which in turn, create economic flows and dynamics that support labor and also the creation of new companies, affecting what has been called the “National Innovation System”.

2.1 Innovation within SMEs
Various studies have been carried out on the importance of the SMEs sector, especially in developing and emerging countries. At present, a competitive SME sector is considered to be a precondition for sustainable development and response to the demands of globalization (Roxas, B.G., 2008).

The literature on innovation provides various perspectives on the concept of innovation. What is important to emphasize is that both empirical and theoretical researches confirm the positive relationship between organizational innovation and performance (Salim, I.M., Sulaiman,M., 2011). At the same time, there is evidence that innovation positively impacts SMEs performance in low and high technology industries. Innovation practices are especially important for companies that are knowledge-intensive and high-tech centered; these are companies that use knowledge as its major asset and resource, in order to produce high technology goods or services (Maldonado, M.U. et al., 2009). A recent study found that innovation strategy represents a key driver to the performance of SMEs (Terziovski, M., 2010). However, SMEs are confronted, at the same time, with a series of constraints that may hinder them from initiating or completing their innovative ideas (Kamalian,A., 2011).

Other recent researches have pointed to the leadership dimension, which plays a key role in initiating and sustaining the innovation process (Aslan, S. et al., 2011). It is therefore acknowledged the fact that transformational strategic leadership within a perceived SME environmental uncertainty affects the strategic change and innovativeness significantly.

2.2 Innovation and knowledge management in SMEs
Existing research in the field of knowledge management (KM) reveals only a few studies about KM application in SMEs, especially in the context of developing countries (Molnar,Z. et al., 2011). Knowledge management in enterprises requires an infrastructure capable of supporting the creation and maintenance of knowledge repositories, and an environment that enables the cultivation and facilitation of knowledge sharing and organizational learning (Krisciunas,K., Greblikaitė,J., 2007).
The ability of any firm to produce successful innovations lies in its capability to make new combinations of knowledge and expertise from the various sources of technological innovations available within the national innovation system (Abereijo, I.O. et al., 2009). Recent studies explored the relationships between cooperation networks and innovation performance of SMEs (Zeng, S.X. et al., 2010). Even though there is significant positive relationship between inter-firm cooperation, cooperation with intermediary institutions, cooperation with research organizations and innovation performance of SMEs, cooperation with government agencies for example cannot demonstrate any significant impact. It is also worth highlighting the key role played by the linkages and cooperation with customers, suppliers or other firms (inter-firm cooperation) in the innovation process.

3. Study on SMEs innovation behavior

The paper is based on the research carried out in 2010 - an integral part of the doctoral research that focused on developing SMEs capacity to innovate with the view to increase their competitiveness - seeking to identify the predominant type of innovation within Romanian SMEs, at the same time trying to paint a picture of the innovation framework established, with an emphasis on the innovation constraints.

3.1 Research questions

In carrying out the research, we identified three main research questions:

- Which are the internal and external sources of learning SMEs use in the innovation process?
- Which is the predominant type of innovation Romanian SMEs engage in?
- Which are the most common obstacles to engaging and sustaining innovation in SMEs?

3.2 Methodology

In order to gain some insight into what concerns the innovation behavior of Romanian SMEs and the main obstacles to implementing and sustaining innovations, we designed a questionnaire meant to assess the Romanian SMEs approach to innovation. The questionnaire was structured on two sections. The first section evaluated the degree of innovation from the perspective of the organizational culture, looking at the type of organizational culture specific to the SME, the degree of openness to creativity, as well as the SMEs orientation towards organizational learning, with an emphasis on the sources for learning used in the innovation process.

The organizational learning dimension was defined using 3 main indicators: (1) “At the organizational level, there is a learning-oriented organizational culture prevailing”; (2) “The internal sources for learning identified by the organization refer to patterns of behavior in the organization / networking with external partners/ best practices inside the organization / problems, errors”; (3) “The external sources for learning identified by the organization refer to changes on the market with regards to the evolution of clients’ requirements/ trends in related areas of activity/ benchmarking analysis/ changes in
technology/ Universities and other educational institutions / experts and consultants”.

The second section of the questionnaire was centered on the innovation process, with a focus on the type of innovation implemented and main constraints to innovation.

The research was conducted between January and December 2010, on a sample of 161 Romanian SMEs, from various economic sectors and covering different geographical areas.

In what concerns the types of innovations, the respondents were presented with 4 types of innovation, namely product/technology innovation, business model innovation, organizational innovation and process innovation. Regarding the obstacles to innovation, the enterprises that took part in the research were required to consider eight types of obstacles/constraints to innovation, namely perceived risks; higher costs; lack of funds; insufficient potential for innovation; lack of qualified personnel; lack of information; managers and/or employees attitude towards change and legislation, regulations and standards.

The types of innovation proposed within this study, the constraints to innovation and internal/external sources of learning that the enterprises were required to consider were selected based on the existing literature on innovation and recent surveys conducted on Romanian SMEs.

In order to answer the research questions set, a structured questionnaire was designed, which included closed-ended questions. Respondents were required to rank each statement on a scale from 1 to 5 where: 1 – strongly disagree; 2 - somewhat disagree; 3 – no opinion; 4 - somewhat agree and 5 – strongly agree.

This format helped us ascertain how strongly the respondents agree that one specific type of innovation reflects the enterprise’s innovation activity as well as gaining an insight into the most stringent obstacles Romanian SMEs face in their innovation activities. It also helped us gain an insight in what concerns knowledge creation process looking to identify the main sources for learning used.

The questionnaires were personally administered and results were recorded first on paper and then on the computer in order to be able to report the findings using graphical representations.

As Figure 1 points out, the majority of SMEs participating in the study were from Bucharest, namely 74 enterprises interviewed, followed by Constanta (12 enterprises) and Braila (11 enterprises).

The data was collected from a sample of 161 SMEs randomly selected from among the small and medium enterprises activating in seven sectors of activity, namely public administration, commerce, constructions, production, services, transportation and tourism (Figure 2). The highest percentage of SMEs came from the services sector, namely 61 enterprises followed by commerce, with 48 enterprises participating in the study and 29 enterprises from the production sector.

3.3 Research findings

The research carried out was oriented in two main directions. The first research direction looked at the learning behaviour of SMEs, in terms of internal and external sources of learning for innovation.

As Figure 3 points out, about 44% of the SMEs
interviewed highlighted the best practices within the organization as the main source for learning, followed by networking with external partners (34%). Only 14% of the SMEs rely on the problems and errors in the daily work as a source for learning.

In the case of external sources for learning (figure 4), 44% of the SMEs use the information regarding the changes in the market as external source of learning, followed by the changes in technology (34% of SMEs), and support offered by experts and consultants (about 26% of SMEs). They rely to a lesser extent on analyzing current trends in related areas or conducting benchmarking studies in order to identify areas for improvement. What it is important to mention in this case is that it is easily noticeable that only few SMEs (11.8%) rely on Universities and educational institutions in acquiring knowledge.

In what concerns the type of innovation activity, respondents were required to take into consideration 4 types of innovation, namely technology or product innovation, business model innovation, organizational innovation and process innovation. Each respondent was required to rank, on a scale from 1 to 5, the degree to which each of these 4 types of innovation best describes their enterprises’ innovation behaviour.

Figure 5 points out that most SMEs focus on innovation in their business model (41%), followed by technology or product innovation implemented by 37% of the SMEs and process innovation implemented by 32% of enterprises. Another direction pursued in our research was centred on identifying the most common obstacles or constraints to innovation SMEs face at the moment.

In this regard, respondents were required to take into consideration eight types of obstacles/constraints to innovation, namely perceived risks; higher costs; lack of funds; insufficient potential for innovation; lack of qualified personnel; lack of information; managers and/or employees attitude towards change and legislation, regulations and standards.

Figure 6 shows that 39% of SMEs consider the lack of funds an obstacle to innovation, followed by higher costs (34%) and legislation, regulations and standards (29%).

3.4 Discussions

The findings of the research relate to Romanian SMEs and they are therefore specific to Romania. The research allowed us to gain an insight into two important dimensions that play a key role in what concerns enhancing the competitiveness of the SME sector. One first direction of research was focused on the learning behavior of the SMEs, looking at particularities of the organizational culture from the perspective of the knowledge creation process. Another direction regarded the type of innovation activity SMEs carry out to the highest extent as well as the main obstacles to innovation.

The findings of the study carried out showed that the majority of SMEs consider that there is a learning – oriented organizational culture already established. In the innovation process, SMEs rely on both internal and external sources for learning. In what concerns the internal sources of learning for Romanian SMEs, best practices within the organization and networking with external partners represent the main internal sources of learning for SMEs. The changes that take place in
the market, changes in technology along with support coming from experts and consultants represented the external sources of learning pointed out by the largest number of SMEs questioned.

The research revealed that the majority of SMEs are inclined to innovate particularly in what concerns their business model and the main obstacles they face relate to the lack of funds and the high costs involved.

Identifying the most common obstacles to innovation in Romanian SMEs represents a starting point for providing future directions towards solving the obstacles in order to support the innovation activity and outcomes.

Although the findings are specific to Romania, the study can be used in order to relate it to similar studies on SMEs in other EU countries making it possible to conduct comparative analyses on the findings. This may provide the basis for recommendations and initiatives to be considered in addressing certain innovation-related aspects. However, it is important to make this comparison considering the current economic-financial situation of the SME sector as well as the national framework for development.

Starting from the findings of the research, we would recommend a more comprehensive examination of the obstacles to innovation in SMEs to be carried out by linking the obstacles to specific types of innovation. Another possible direction for future research would regard the underlying factors that SMEs take into consideration when selecting a specific type of innovation to be implemented, which could also serve as the basis for developing a model for innovation at the level of the enterprise.

4. Future challenges for SMEs

Recent studies showed that Romanian SMEs are faced with a series of challenges that emerge from the various changes that take place in the macroeconomic environment, such as the taxes being too high (especially social security contributions). Also, profitability has declined and the number of SMEs going out of business increased as a result of the financial and economic crisis. The adverse effects of the financial crisis are highly significant in the case of SMEs that carry out their activities in sectors such as commerce, construction and real estate (Hodorogel, R.G., 2011).

A very important challenge for Romanian SMEs at this point is to be able to tap into EU structural funds (Hunya, G., 2011). In order for this to happen, several initiatives should be pursued which should aim to improve the current framework. Such initiatives could target the simplification of procedures related to the EU funding, more flexible conditions during the implementation phase, which calls for a more targeted and interactive support.

Conclusions

The research allowed us to gain an insight into two important dimensions that play a key role in what concerns enhancing the competitiveness of the SME sector. From the learning organization perspective, Romanian SMEs display a learning orientation related to innovation, using both internal and external sources for learning that would be applied in the innovation process. As internal sources for learning, SMEs would rely especially on the best practices identified within the organization and networking with external
partners whereas, in terms of external support for learning, SMEs would consider the changes that take place on the market, changes in technology and the input from experts and consultants. Romanian SMEs are very much oriented towards innovation in their business model. However, they are faced with various constraints such as the lack of funds and the high costs involved, which makes the innovation process difficult to undertake.

The practical implications of the study for innovative SMEs are twofold. First, in what concerns the organizational learning dimension, the need for SMEs to focus on strengthening the collaboration with Universities (higher education area) as the research pointed out that only few SMEs rely on Universities and educational institutions in acquiring knowledge. Secondly, to focus on innovation and manage innovation activities as a core competency inside the firm in relation to designing a process of organizational change in SMEs, which should enhance drastically the performance of such initiatives.

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References


Figure 1. Geographic distribution of the SMEs.

Figure 2. The distribution of SMEs according to the field of activity.

Figure 3. Distribution of SMEs in relation to the internal sources for learning.

Figure 4: SMEs distribution in relation to the six external sources for learning.

Figure 5. Distribution of SMEs according to the type of innovation.
Figure 6. Distribution of SMEs in relation to the obstacles to innovation.