

Conceptual Approach to Innovation - a Modern Tool to Enhance Entrepreneurial Competitiveness

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Abstract

The paper studies the evolution of the innovation process generations, analyzes the meaning of the innovation concept and its influence on the performance of the economic agents. The issue addressed: the lack of a harmonized and unanimously accepted terminology of the term „innovation” leads to permanent discussions on this subject and to the impossibility of developing the harmonized methodology of its evaluation. Research methods: observation, analysis of documents, scientific papers and works. Conclusion: A significant number of studies have examined the impact of different forms of innovation and its effects on business performance, the findings indicating expressly that innovation, in its various forms and aspects, was the strongest predictor of business performance.

Key words: innovation, innovation management, knowledge, entrepreneurs' performance.

1. Introduction

Since the sixteenth century, the scientists from all over the world have written a series of papers and have conducted extensive research studies on innovation that can explain its essence. [1] One of the first and most comprehensive descriptions of innovation or the process of innovation in the field of economic sciences was introduced by the American economist and politician Joseph Schumpeter in his work „Theory of Economic Development” in 1930. At that time, the theory of economic development proposed by J. Schumpeter competed with Keynesian theory of economic development. The main idea of Schumpeter's theory consists in the fact that the major forces that influence the economic equilibrium are the entrepreneurs who can innovate and implement practical innovations, and as a result these activities lead to the economic growth and formation of the new equilibrium. Also in the 1930s, Schumpeter identified five characteristics of the innovation process:

- the use of new technology, new technological processes or new market

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- insurance of production (sale-purchase);
- the introduction of a new or well-known product, but with new properties;
- the use of new raw materials or semi-finished products;
- the change in the production process organization and technical-material supply;
- the emergence of new sales markets [2].

Therefore, J. Schumpeter's work can be considered as a benchmark of the classical theory of innovation. However, the economic situation after the Second World War (SWW) served as a catalyst for the development of innovation activities. At the end of this terror that took place on the territory of three continents and in the waters of four seas, the innovation was considered as being indispensable for the economic and technological survival of nations and companies, which led to its widespread use, to the intensification of scientific research activities and to the implementation of the innovation management [3].

2. Main part

Analyzing the specialized literature, it is possible to affirm that different generations of the innovation process appear in completely different moments and contexts, therefore they require a historical approach [4, 5, 6, 7, 8, 9]:

The first generation of the innovation process, after the SWW and in the mid-1960s, is characterized by economic growth due to *rapid industrial expansion and new technological opportunities*. The first generation or „the concept of push technology” supposes: the „more investments in research and development” the more „new successful products you get” [7].

In the Cold War era, special state funds had been created for research projects in the field of defense, fact that lead to the emergence of atomic energy, satellite communications, high technology surveillance, global positioning systems (GPS), super computers, etc. [10].

The second generation occurred between the mid-1960s and early 1970s. The level of employment in the manufacturing sector is considered as a static one, while the productivity of this sector is growing. Thus, during this period of time, *industrial concentration is increasing*, new products appear, but the manufacturing processes are mainly based on the existing technologies. The demand and supply are in balance. The large companies are struggling to gain a market share as large as possible.

The third generation, approximately, takes place between the early 1970s and the mid-1980s. During this period the inflation rate is considerably increasing and the level of demand reaches the saturation point (stagflation). Structural unemployment is steadily rising. The companies are forced to adopt consolidation and rationalization strategies, *while increasing emphasis is being placed on the process of large-scale innovation* and experience in this field. Successful process innovations are based on extensive and systematic studies covering many sectors and countries.

From the early 1980s to the early 1990s, the fourth generation took place. There is a steady increase of the awareness degree regarding the strategic importance of generic

technologies. More emphasis is put on technologies. There is a new development perspective. *There is a rapid increase in the number of strategic alliances between companies activating in different spheres.* The life cycle of the product becomes shorter, therefore special attention is paid to time management, integration and parallel development (integrated model) [6].

The fifth generation begins in the mid-1990s. The companies keep their commitment to technology accumulation. The creation of strategic networks continues. The speed of reaction, the speed of product development, the flexibility and adaptability remain very important for the market. „Fast Innovation” becomes an important factor for a company’s competitiveness. The companies are increasingly focused on the direction of integrated products and production strategies [7]. In this context, we note that nowadays the importance of knowledge has become indispensable for economic growth, which implies that staff knowledge within the commercial units and the competitiveness of these companies go hand in hand and they directly depend on each other. Therefore, the innovation based on extensive and in-depth knowledge becomes a determinant factor of national and regional competitiveness in the world knowledge-based economy [8].

It is certainly possible to note that there are other variations in the timing of different generations, and in some cases, the difference constitutes more than a decade. Miller (2001) [11, 12], for example, places the second generation between 1950 and 1985, while Niosi (1999) places the same generation between the early 1960s and the early 1970s. Although it is not always clear how the authors reached their conclusions on the splitting of periods, the main idea is to indicate when a certain approach to innovation activities was considered as a dominant one [4]. It should be noted that, in any case, new generations appear because the innovation adapts to a context that is constantly changing and the purpose of each new generation is to remedy the disadvantages of previous generations.

In the modern economic literature, there is no a harmonized and unanimously accepted terminology on „innovation”, therefore its definition represents a constant subject of discussions.

One of the most recognized notions is written by the American economist Peter Drucker „innovation is a process of endowing with something new, improving conditions or increasing utility levels” [13] and „innovation is the specific tool of entrepreneurship, the means by which they exploit change as an opportunity for different businesses or a different service” [14].

It should be mentioned that the Belgian physical chemist, Nobel Prize winner, A.I. Prigogine argues that innovation is a novelty, a significant change, a reorganization that can take place in any field of human activity, it contributes to meeting the existing needs of society, and its implementation brings about tangible economic benefits to the entrepreneurs. In other words, innovation is a final result of the innovation activity [15].

According to the opinion of the co-authors of the local paper „The fundamentals of innovation and technological transfer management”, „the innovation process begins concomitantly with the production (products) - economic (commercialization, marketing) activity and continues in the activities of work and business organization and

management, activities which imply the provision of services or even government” [16].

According to the Code of Science and Innovation of the Republic of Moldova (art. 20), innovation represents the implementation of the new or improved final result of the scientific research and technological transfer activity obtained in the form of competitive, new or improved knowledge, product, service or process used in practical activity and/or marketed [17].

The concept of innovation is characterized by the Moldavian scientist Hriscev as „a change emerged in the production process of goods and services, socio-economic relations, science, culture, education and other spheres of human activity, conditioned by the use of intellectual resources and oriented towards the modernization of the production process, improvement of its results and (or) reducing costs”[18].

Watts Humphrey, the pioneer in the field of computer software systems development of the American corporation producing advanced technologies IBM, defines innovation as the „process of turning ideas into manufacturable and marketable form” [19].

Another American author, James Harrington, states that innovation is successful everywhere it is implanted, the innovation itself represents growth and survival [20].

The official definition of innovation taken from the Green Paper on Innovation drafted by the European Commission and published in 1995 stipulates that: „Innovation has a variety of roles to play. As a driving force, it directs businesses to ambitious long-term goals. It also leads to the renewal of industrial structures and is behind the emergence of new sectors of economic activity. Briefly, innovation is:

- Renewal and expansion of a range of products and services and related markets;
- Creating new methods of production, supply and distribution;
- Introducing some changes in the management, organization of work, as well as of working conditions and qualified labour force” [21].

Currently, innovation is seen as an essential component of competitiveness, integrated into the organizational structures, processes, products and services within a company [14].

In this context, the definition presented in Oslo Manual, developed by the Organization for Economic Co-operation and Development (OECD), which is considered as the primary international basis for defining and evaluating innovation activities, as well as for the development and use of related data, considered as a fundamental reference source for describing, identifying, evaluating and classifying innovations at the company level, states that [22] „innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations”.

Therefore, there is a breakdown of the notion of innovation into four parts: product innovation, process innovation, marketing innovation and organizational innovation.

Product innovation means the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes

significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics. Innovative products may be new to the market or new only to the innovating enterprise. [22, 23] Product innovations can utilize new knowledge or technologies, or can be based on new uses or combinations of existing knowledge or technologies. *Product innovation refers to both goods and services*, it is a difficult process driven by advanced technologies, constantly changing customer demands, shrinkage of the product life cycle as well as increasing global competition [14].

Process innovation represents the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software in order to reduce production and distribution costs, to improve quality, production or distribution of new or improved products and to reduce environmental risks [22, 23]. Fagerberg highlighted that it is recognized that the introduction of new products usually has a positive and clear effect on the revenue growth, employment, but the things are different in the case of process innovation, due to its cost reduction nature, process innovation has a more unclear effect [24].

Marketing innovation is the implementation of an absolutely new concept or marketing strategy that differs significantly from the previous marketing methods usually used within the enterprise. The most common marketing innovations are: significant changes in product design or packaging, product placement, product promotion or pricing.

The main objectives of marketing innovations are:

- Increasing or maintaining the market share;
- Introducing products for new customer groups;
- Introducing new products into geographic markets. [22,23]

Therefore, marketing innovations take into account the latest needs and requirements of customers and are oriented towards opening new sales markets or positioning the new product on the market as best as possible, intending to increase company's sales. Marketing innovations are closely related to pricing strategies, product package design, packaging method, product placement and promotional activities along the 4P-s marketing lines (product, price, promotion, placement or Distribution) [25].

Organizational innovation is the implementation of a new organizational method in the firm's business practices, workplace organization or external relations that have not been used before in the firm.

The main objectives of organizational innovation are:

- Reducing the time needed to meet buyer's or supplier's needs;
- Improving the ability of the new product or process development;
- Improving the quality of goods and services.

The following examples can serve as eloquent practices: the implementation of practices for codifying knowledge, e.g. establishing databases of best practices, lessons and other knowledge, so that they are more easily accessible to other employees; introducing education and training systems for employee development and improving worker retention, etc. Thus, organizational innovations are closely related to all

administrative efforts to renew organizational routines, procedures, mechanisms, systems, etc. in order to promote teamwork, exchange of information, learning, co-ordination and collaboration. [14]

Therefore, it can be noticed that the innovation process can be subdivided into: commercial and non-commercial. As for the definition of „commercial innovation process”, everything is simple. As a result of this innovative process, there is a marketable innovation, for e.g. a new technological product. The problem arises with the perception and understanding of the term „non-commercial innovation process”, as this type does not imply its use by the broad public and as a result of this process, the organizational changes occur most often. Namely this type is generally used by a small group of consumers, for example, by the company that invented it and keeps it secret for competitors, so that they can't get the same results without using this new process. The separate examination of these two categories of innovation should be done for several reasons:

- „marketable innovations” or „technical innovations” and „organizational innovations” lead to quite different results. While new technologies are being developed in scientific laboratories during research and as a result they can lead to copyright registration on intellectual property, „organizational innovations” are the result of less systematic efforts and rarely can be protected by intellectual property rights.
- „technical innovations” lead to significant economic results due to „organizational innovations”. Technical novelties will not have considerable economic consequences until internal conditions are changed in such a way as to create a necessary environment in which new managerial decisions will be fully implemented.

3. Conclusions

The positive relationship between innovation and business performance has long been discussed, but the evaluation methods and therefore the obtained results differ from case to case. A study carried out by Deshpande et al. in 1993, among the *Japanese companies*, indicated that positive innovation has influence on the organizational performance in terms of profitability, size, market share and growth rate [26]. Dwyer and Mellor, in their study accomplished among the *Australian companies*, found that those companies that adopted strategies of „offensive technique” had the highest percentage of successful new products and achieved the highest level of performance in achieving their established performance goals, profitability of the new product launch and overall success level [27]. Another study among the *Canadian companies* accomplished by Baldwin and Johnson also showed the significant impact produced by innovation by measuring performance, fact which affects the wide range of activities within organizations, including the increase of their market share and return on investment [28]. A study done by Salavou (2002) among the SMEs activating in the food industry sector of *Greece* showed that product innovation was a key factor in enhancing business performance to a large extent through the return on assets. A series of studies

mentioned above and also many other studies have examined the impact of different forms and sizes of innovation on business performance and the findings expressly indicate that innovation in its different forms and aspects was the strongest predictor of business performance. However, taking into account that the internationalization and globalization of the world economy, which has an increasingly strong and pronounced emphasis moving from material values to intangible values, the competitive advantage of companies turns into the management based on knowledge, creative ideas and methodology of innovative business management.

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