

Understanding the Innovation Concept

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Abstract: In today's fierce competitive environment, we frequently hear media discussing issues related to innovation. From these discussions, it is not difficult to assume that innovation has become one of the most controversial topics of the 21st century. If for some businesses being innovative is an attempt to be market leaders in their area for many others it is the only way to respond appropriately against challenges by their innovative rivals in the market. In brief, today's competitive market situation has already turned out to be "innovate or die" situation. Therefore, understanding the concept of the innovation is crucial to know about innovation itself and its importance. Thus, This paper explored the concept of innovation through literature review and gave an overview of the concept of innovation, as well brought readers a quick introduction about innovation and presented the fundamental understanding of its importance, actors, sources, types and main drivers. In this paper, innovation was discussed in five different sections and a conclusion was derived as an inference.

Key words: Innovation; National System of Innovation; Drivers of Innovation; Global innovation index

1 Introduction

Until now the term "innovation" has been interpreted and explained by many scholars and practitioners based on their own perspectives and views. Therefore, sometimes it is really complicated to gather them all and to come at one stand. If we look back at the history, the introduction of this word in the field of economics is related to Joseph Schumpeter who used the term "innovation" for the first time and described it as the motor of the development ^[1].

According to the definition specified by the wikipedia.org electronic dictionary; "innovation" is a word derived from its Latin equivalent "*innovatus*" which means, in - "into" + novus - "new", the introduction of something new ^[2]. Interpreting the term of "innovation" Harmut claims that this is a substitution new-trend word in management for previously widely-used words including "re-engineering," "six sigma," "kaizen," "out-sourcing" and it embraces all their functionality ^[3].

Showing her view of innovation, Anne classifies "innovation" as any kind of change in the production process that contributes to significant improvements within the firm. She accentuates that "innovation" which is new to a particular firm may or may not be new to the world ^[4]. In the same manner, Tim et al. describe innovation as "any change in inputs, methods, or outputs which improves the commercial position of a firm and that is new to the firm's operating market" ^[5]. Giving a broader view, Mulgan and Albery described innovation as "new ideas that work" that is the creation and application of new processes, products, services which as a result brings noteworthy improvements in efficiency, effectiveness or quality as an outcome ^[6].

The Business Council of Australia asserts that once for the most part of the 20th century the term "innovation" was equated with R&D is no longer appropriate today. In its report it is cited that "innovative activity extends across all parts of a business – it is not confined to research work alone" ^[7].

Proposition-1. Inferring from the definitions and conceptions, one can assume that in modern economy, innovation is a term to illustrate any kind of changes which can bring improvement in firm's performance.

2 Importance of Innovation

Goran et al. highlight the importance of innovation in firm, sector, regional and national level to respond to the challenges of globalization and global competition. From his perspective, country's policy measures that stimulate innovations are essential for job creation, growth and sustainable wealth generation in business firms and in the country as a whole ^[8]. As we take a look at Global Competitiveness Report, we can find "innovation" as the final pillar of country's twelve competitiveness measurement units proposed by World Economic Forum. It highlights critical importance of innovation among others saying that "Although substantial gains can be obtained by improving institutions, building infrastructure, reducing macroeconomic instability, or improving human capital, all these

factors eventually seem to run into diminishing returns. The same is true for the efficiency of the labor, financial, and goods markets. In the long run, standards of living can be expanded only with innovation [9].”

In the firm level, Richard underscores the importance of continuous changes (technology, new product, structure, and culture/people) within the companies and emphasizes that without these changes it is impossible for the companies to survive and prosper in a fast changing environment [10]. Joseph having almost the same point of view notes that if companies stop innovating, their customers will likely to leave them for other companies with more cutting-edge products and services [11].

Proposition-2. Innovation is an essential and critical determinant of competitiveness and development both in national, regional and company (organizational) levels.

3 Important Role of Organizations in the Development of Innovations

“Before the Industrial Revolution many innovations were the result of lone inventors and entrepreneurs. Today the situation is very different. The overwhelming majority of innovations come from the organizations...” – writes Paul [12]. Kanter claims that innovations can exist in wildness but in favorable conditions they blossom in abundance. Here, he asserts that organizational conditions can actively stimulate innovations [13].

As a matter of fact, in modern management, innovation is increasingly regarded as an organizational activity. Seeing that Jose describes organization itself to be a system [14], thus, in a system where everything is in good order and under control, there is a better condition for innovation to develop and prosper. Accordingly, organizations have appeared on the stage in a function of a lens which directs all possible resources (money, intellect, skillful management etc.) to the development of innovations (Fig. 1).

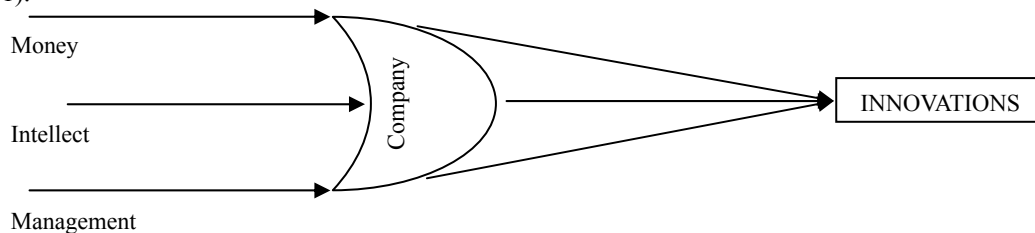


Figure 1 Conceptual Model: Company as a Lens in the Development of Innovations

3.1 Sources of innovation

As innovation holds an important role in competitiveness, organizations should know as much as possible about the source of innovation in order to succeed and overtake their rivals in terms of knowledge of information source to obtain and utilize innovative ideas and skills from these sources efficiently. From the research findings of Nabil et al. research, companies which use a larger variety of sources of information are more likely to have higher novelty of innovations. In his research, based on data from 1999 Canada Innovation Survey, he describes sources of innovation in four categories: (a) internal sources (R&D, marketing, management and production staff), (b) market sources (related firms in a corporate group, suppliers, clients, competitors and consultancy firms), (c) research sources (universities, government and provincial agencies, and research laboratories), (d) generally available sources (trade fairs and exhibitions, internet or computer based networks, professional conferences, meetings and publications) [15].

Rodney McAdam et al., distinguishing internal and external sources of information, found, in the case of UK textile industry companies, marketing and R&D staff as the most productive internal and “customer” (clients) as the most productive external sources of innovations (innovative ideas) [16]. Although some types of sources are more valuable than the other, relying more on internal capabilities of the organizations rather than external support, such as outsourcing, joint ventures, product licensing is highly advised [17], one should not forget about indispensable role of external sources for the companies to enhance their learning process [18].

3.2 Types of innovation

As an integral part of modern management, so far, innovation has been differently categorized inferring from the perspectives and views of the explorer. Tony et al. differentiate three types of innovation in the company level (incremental, semi-radical, and radical) from technology and business model perspectives. He illustrates incremental innovations as small improvements and modifications

whereas radical innovations as breakthrough changes to existing products and business processes. Semi-radical innovations are explained as little changes either in the technology or business model of the company ^[19]. Moreover, Moore describes fourteen types of innovations within the company and asserts that there is always at least one innovation type which companies can innovate with. He groups all these types into four clusters (innovation zones): product leadership zone (disruptive, application, product, and platform innovations), customer intimacy zone (life-extension, enhancement, marketing and experiential innovations), operational excellence zone (value-engineering, integration, process, value-migration innovations), and category renewal zone (organic, acquisition innovations) ^[20].

4 National Systems of Innovation

Showing his perspective Paul says that “the capability of organizations in initiating and sustaining innovation is to a great extent determined by the wider local /national context within which they operate” ^[21]. On the other hand, Zhou emphasizes important contribution of indigenous innovation system of organizations in the successful development of innovation-driven economy ^[22]. From these two statements, we can clearly understand mutual interrelation of two different systems in fueling each other’s development. However, it is always true that wider systems, at least in the very beginning, play more important role. Thus, currently many countries are trying to create their own national innovation systems and related policies to support innovativeness throughout the whole country. Here, in order to point out the direct relationship between the pace of economic development and importance of practically efficient NIS, I would like to bring a piece of information from the ranking list of innovative economies of the world into readers’ attention (Table. 1).

Table 1 Global Innovation Index 2009-2010 Overall Rankings¹

Country/Economy GII	Score	Rank
Iceland	4.86	1
Sweden	4.85	2
Hong Kong (China)	4.83	3
Switzerland	4.82	4
Denmark	4.72	5
United States	4.57	11
Japan	4.4	13

(source: http://www.globalinnovationindex.org/gii/main/reports/2009-10/Rankings_09-10.pdf)

Therein, we’ll have a look at what is NIS and how it works. Edquist determines “National Innovation System” as “all important economic, social, political, organizational, institutional, and other factors that influence the development, diffusion, and use of innovations” ^[23]. In Goran Roos et al.’s view, national innovation systems are collaborative work of all economic, political and other social institutions to influence the development and utilization of new knowledge and learning ^[24]. Giving much broader explanation, Deok defines NIS as a system of interaction among different societal institutions; government, universities, industries, research and financial institutions, market and other actors to create, transfer and utilize knowledge in the market within the mutual exchange of knowledge, money and human resources ^[25].

Analyzing USA’s NIS characteristics, Irwin points out three main actors in NIS; (a) industries as a primary performer of R&D, (b) universities as a primary performer of basic research, (c) Federal government as a primary source of funds for basic researches ^[26]. In the summary of its report of 1997, OECD points out three important figures of NIS including enterprises, universities and government research institutes and highlights the role of policy-makers that can assist to define mismatches among actors within the system and find appropriate solutions to improve networking among them ^[27]. Learning innovations in macroeconomic context, Jonathan highlights two mutually interdependent innovation types: technical and social innovations. He points out that social innovations (banks, corporations, stock markets) are fundamental for technical innovations (industrial development) to happen ^[28].

Thus, NIS of the country embraces a set of economic, social, political, organizational, institutional and other policy measures that have a great power to enhance mutual interlinks between different actors of innovation (mainly between government, universities, research and financial institutions, market and different independent industrial units (organizations)) in terms of knowledge, money and human resources, to facilitate the exchange of knowledge among them and eventually to spur their overall innovative performance (Fig. 2).

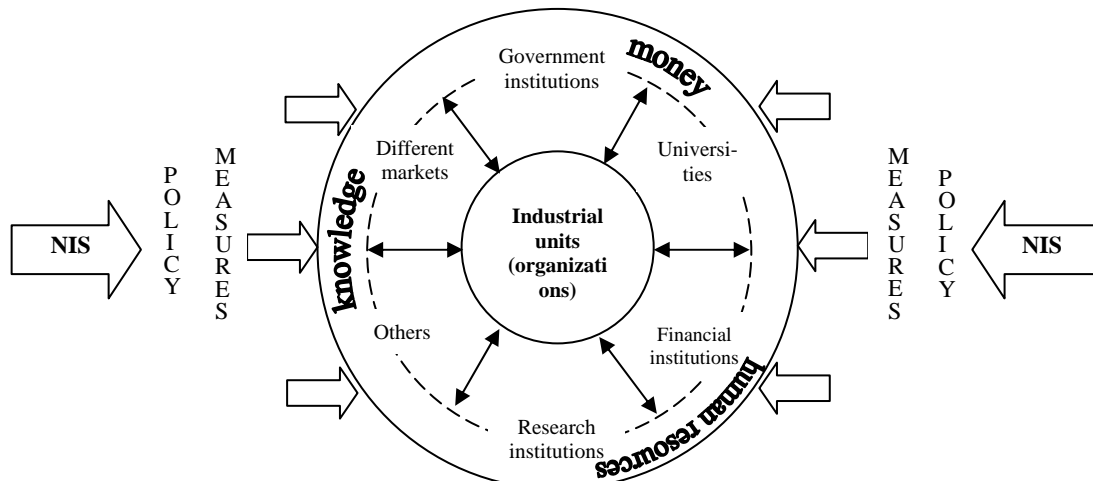


Figure 2 Conceptual Model: National Innovation System

5 Factors that Enable and Drive Innovation

Understanding the indispensable role of innovations in the prosperity of societies, one starts thinking about implementing innovation processes into his operation area. However, one should also understand that breeding and nurturing innovation requires specific environment. Association for Competitive Technology refers to the term “ecosystem” of innovation and interprets it as complex range of economic, legal and societal inputs that lets innovation to flourish. In a national context, they point out that antitrust and competition regulation, education, finance, intellectual property, international trade, labor and taxes policies of the country may be either supportive or discouraging factors for innovations [29]. Jan et al., taking the different point of view, categorizes four elements in the national context to be critically important for the countries to catch up: (a) the development of the “innovation system”, (b) the quality of “governance”, (c) the character of the “political system” and (d) the degree of country’s “openness” [30].

In a firm level, Langdon counts the integration of innovation methodology, innovation culture and leadership aspects of practice in the company as the most critical factors in enabling innovations to occur in permanent manner [31]. Exploring several companies from France, Germany, Australia and Thailand, Mile concludes the key drivers of innovative organizations to be committed leaders, a highly developed innovation strategy, “top-down” and “bottom-up” communication processes supported “first-to-market” philosophy of new products. Additionally, NPD strategy, e-Commerce and SDO (Sustainable Development Orientation) are seen as both effective enablers and drivers [32].

Preposition 3. Both in macro and in micro level, well-thought systematic approach and good governance is crucial for the success of the innovation.

6 Conclusions

As we mentioned before, innovation has already evolved to be one of the most crucial factors of competitiveness both in micro and macro levels: it is one of the most important ingredient which can determine the future livelihood of production units. By examining relevant literature on innovation, we have come up with short conclusion found below:

- (1) Innovation is any type of successful change which can contribute to the improvement of unit’s performance.
- (2) Innovation is an essential component of competitiveness, thus, economic growth and sustainability, both in nation, region and company level.
- (3) Well-thought systematic approach and good governance is highly important for the successful realization of the innovation, both in macro and in micro level.

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