

INNOVATIONS MANAGEMENT IN INFORMATION GLOBALIZATION CONDITIONS (IN TERMS OF INFORMATION)

Lis Tomasz, PhD¹, Bajdor Paula PhD², Seroka-Stolka Oksana PhD³

Faculty of Management, Czestochowa University of Technology, Czestochowa, Poland^{1,2,3}
Innomia Company, Inc., the Czech Republic²

Tomlis1@wp.pl

Abstract: *Changes, improvement, and finally the introduction of new solutions (innovations) in every area of the company's activities, are an important part of its existence on the market. Among the characteristics of modern markets, those associated with dynamism are particularly important. Customers' preferences and needs, the behavior of competitors are constantly changing. This happens in fact of geographically unrestricted access to products and their suppliers. This is accompanied by the possibility of access to key terms of operating efficiency, including innovation information management. They are (information) the cause of innovation, as well as one of the most important factors affecting the achievement of intended objective. This aim of this article is to analyze the possibilities and desirability of active management in conditions of globalization in terms of information, particularly in terms of efficient innovation management in a changing environment.*

Keywords: INNOVATIONS, INNOVATION MANAGEMENT, INFORMATION, GLOBALIZATION, COMPETITIVENESS

1. Introduction

The development of information technology, especially information and communication, has contributed to changes in human being functioning and of all the structures created by him. This includes inter alia enterprises. Computers, software specialized in management support and network infrastructure, improve work. They give the possibility to: create databases, fast access to data and data transfer. These actions have a positive impact on the management effectiveness. Of course, in terms of the right resources from the information technology area possession¹, together with the high qualified staff in its practical and application use.

Computer, printer, or any software for management assist, supports the work. They make it easier and faster. It should be noted, however, that without data transmission capabilities, the obtained results may not be optimal². It is data transfer used for information and knowledge dissemination can optimize these effects. What is important, it cannot be seen only in terms of cooperation or collaboration between companies, but in terms of cooperation, collaboration and coexistence of all individuals, having or likely to have a purpose in establishing an electronic contact. Openness to the environment, which through the virtuality ceases to have a connection with the distance and time, considered in terms of physicality, increases sensitivity to events, that take place and, what is important, these upcoming. Thus it gives the opportunity to make changes in order to adapt to the market, before or in parallel with the competition. This, in turn, as everyone knows is one of the most important factors, influencing success in the conditions of free market economy.

Active participation in the virtual space, provides a number of advantages to modern enterprises³. It should be wonder whether due to the dynamism of modern markets is not really a necessity. The complexity and size of the virtual space, as well as the rate of changes are the reasons for the complexity of the enterprise

¹ It should be recognized that the primary determinant is needs fitting in this respect.

² Niezależnie od poziomu zaawansowania sprzętu, czy możliwości i funkcjonalności oprogramowania.

Regardless of the level of equipment's advancement or the software's capabilities and functionality.

³ A. Ptak, „Cloud Computing Systems in Information Society - the European Enterprises Towards Technological Advancement. Comparative Rough Set Analysis, Applied Mechanics and Materials, IT Systems and Decisions in Business and Industry Practice, Vol.795, XXII Mountain School of Association of Information Society, Czestochowa, 2015, pp.171-178

management proces. As noted by K. Krupa: "The top management of the companies are facing the following dilemma: on the one hand, rapid transformations taking place in an environment, significantly increase the complexity of organizational management, planning and implementation of changes, on the other hand, because of the environment's dynamism, carrying out appropriate changes in the relevant time determines the success of the organization. Companies that are not prepared for continuous learning (learning organizations) and the systematic and rapid modification methods and courses of action, usually lose their previously earned reputation in the market⁴."

Today's world is, as rightly noted, the one global village. It seems here, that the globality refers in fact mainly to the informational dimension of human functioning. The term of the village means that living in it units are only slightly spaced apart. Distance and time are not an obstacle, in terms of direct contacts and information in the course within its borders. It is not true in the physical sense. Even the most advanced means of transport are not capable of blurring the boundaries of time and place. This possibility however exists, but while considering life in the sense of the information. In this regard, the technology has allowed to blur the boundaries of time and place.

Functioning in the context of globalization and in fact in the dynamic changes forces, as was mentioned, the introduction of constant changes. Modification considered as to adaption to the current and upcoming events, may be associated with the introduction of innovations, but may also occur without it. According to the authors, introducing the innovation always causes changes, but introduced changes are not always related to innovation activities⁵. There should also be noted, that every change and innovation is the result of: obtaining, understanding and practical use of information. Therefore, it should be noted that the ability to initiate and implement change and innovation is closely linked to the management capacity in the area of information, including specific actions based on the information. Interestingly achievement of the desired effects of changes and innovation⁶ also require the management in the information area. The aim is not only about information management within the enterprise, but also outside it.

⁴ K. Krupa, Teoria zmian organizacyjnych przedsiębiorstw ery informacji, Wydawnictwo Uniwersytetu Rzeszowskiego, Rzeszów 2006, p. 8-9.

⁵ I. Olton, The social innovations harmonised with the company personnel management system, in: Polish Journal of Management Studies, vol. 10/1/2014, pp. 92-97

⁶ Considered in the context of the activities directly associated with their implementation.

Globality considered in terms of information, causes that in the "direct"⁷ unit's proximity⁸ are all information, necessary for its proper functioning, including gaining competitive advantage. The problem is the difficulty in identifying the desired information, their sources, and the same its acquisition and practical use⁹. Another problem is the identification of information recipients and effectively reach them¹⁰.

This article's aim is to show the impact of globalization, assessed in terms of information on the effectiveness of innovation management. The aim is also the fact visualization, that on the dynamic market, in globalizaion reality, the key condition to acquire the intended purposes of innovation introduction, is the ability to information management in the area of human functioning.

1. Innovation in company's functioning on the dynamic market

The variability as one of the most important features of the modern market, causes the necessity of company's continous adaption to emerging business events. This involves events whose symptoms are visible, but also those that are just coming, and thus its identification and understanding is difficult. This requires from top management continuous monitoring of the enterprise's environment. It is the activity of identifying and obtaining information with a strategic importance for the company itself. Taking into account the development of modern tools of information and communication technologies, including the Internet, the physical location of the source no matters. Distance as the cause of restrictions do not have any meaning in this regard. It can be said that the globalization process¹¹ is mainly related to the information area of human activity only.

Increasing competition, increasing customer requirements and the need to take immediate actions, cause that the innovation acitivity is particularly important and desirable. New products available in the offer of assortment, as ways of behavior are factors encouraging to cooperate¹². As waa rightly pointed out by J. Baruk, for companies, who understand the contemporary realities, the market is¹³:

- an important element in the process of creating value,
- a place where company contacts and cooperates with clients and all those market participants, with whom contact and cooperation can bring some certain advantages.
- a place where as a result of mutual cooperation is the process of creating knowledge, experience, and all that for what ultimately customers will be willing to pay,
- a place where there is information about the individual needs of customers, and its acquisition allow to take innovative actions, aimed at satisfying its needs.

The concept of innovation has not yet been clearly defined. Thus, the individual research works refer to different definitions. The thing that connects all these is to bring innovation in the introduction of new solutions. They may involve both spheres

⁷ The space information without the time and place restrictions.

⁸ Human and the company - the individual in terms of source and information recipient.

⁹ The phase occurring before and during the innovation's implementation.

¹⁰ The phase occurring after the innovation's implementation.

¹¹ A. Lemańska-Majdzik, A. Sobięgraj, „Globalizacja – szansa czy zagrożenie dla współczesnego świata”, *Zeszyty Naukowe Wyższej Szkoły Humanitas. Zarządzanie*, nr 1/2013, s. 114-117.

¹² T. Kalinowski, *Innowacyjność przedsiębiorstwa, a systemy zarządzania jakością*, Wolters Kluwer, Warszawa 2010, s. 13.

¹³ J. Baruk, *Innowacje jako czynnik sukcesu organizacji*, *Zarządzanie i Finanse*, T.4 nr 1, 2013, s. 8.

at the product, methods of management and manufacturing, and general ways of functioning¹⁴. Depending on the purpose to which they relate, innovations are divided into: product, process, organizational and marketing.

In the dynamic reality, the company irrespective of: the size and modernity, the competence of employees, value of existing resources, is not able to successfully get, and what is important to maintain, a competitive advantage. It is not being able to compete with the groups (networks) of cooperating entities. This is due to, inter alia: greater sensitivity of network to changes, complementarity members. Network organization is able to more quickly and better meet the customer's requirements¹⁵. The advantage of network is very well characterized by the definition of which it is "a form of organization involving many organizations, caused by instrumental individual or collective objectives, where network members show co-specializations, bringing into the network a unique ability to create value, such as knowledge resources or access to the market"¹⁶. An interesting definition, in relation to issue discussed in this article, is the definition establishing the organization network as "an organization, that depends on the ability to communicate between entities within a particular constellation and the convergence of the objectives they want to achieve, by various network operators, and the whole group of them"¹⁷.

The cooperation gives the advantage of knowledge, sensitivity, competence, naturally positively affects the ability to generate, carrying, placing, but also to obtain the desired effects of innovation. Higher sensitivity gives the opportunity to quick capture and inclusion of changes. It also provides the ability to identify and engage market participants with characteristics predisposing to co-participation in the activities of the network¹⁸. This strengthens the knowledge and competence. The structure consisting of many independent individuals can compete with a single company only in the reality in which there are no restrictions of time and place. This applies perhaps above all, the ability to innovate¹⁹. Currently, in a competitive fight, an advantage have are those organizations that participate in the structures, as well as those with the flexible structure, open to new, ready and willing to change. Capable of taking action, including innovation in a short time²⁰. All this confirms that today counts above all, the ability to function in the information sphere of human life. Not limited by placement in a geographical sense, but the ability to identify, capture, processing and practical use of relevant information. Globality in terms of the information, decides in fact, about the dynamism of changes in the market. The management of modern enterprise including the innovation management, takes place in the global world of information.

In such a rapidly changing reality, those organizations that are able to acquire strategically important information and establish cooperation with administrators of relevant information and knowledge can achieve a success. It can therefore be argued that they lead activities based on cooperation. It seems that this is one of

¹⁴ European Public Sector Innovation Scoreboard (EPSIS) – Methodology report, Inno Metrics, 2012, s. 4.

¹⁵ M. Starostka-Patyk, *Network Solutions and Bullwhip Effect in Supply Chain*, in: *Supply Chain Management. Fundamental and Support Elements*, Czestochowa 2013, pp. 18-29

¹⁶ A. Sopińska, *Zasoby wiedzy w organizacjach sieciowych*, [w:] *Studia i Prace Kolegium Zarządzania i Finansów, Zeszyt Naukowy 118, Szkoła Główna Handlowa, Warszawa 2012*, s. 17.

¹⁷ A. Sopińska, *Zasoby wiedzy w organizacjach sieciowych*, [w:] *Studia i Prace Kolegium Zarządzania i Finansów, Zeszyt Naukowy 118, Szkoła Główna Handlowa, Warszawa 2012*, s. 16-17.

¹⁸ Including innovative activities.

¹⁹ They count especially when allow for faster and more efficiently than others, adaption to challenges and events.

²⁰ In this meaning, in terms of time, from the appearance of the first weakest signal of upcoming events.

the network structures forms. Based not on official cooperation with selected market participants, but to cooperate with each one on a global scale (in the context of information), who has important information, at the moment, or who after obtaining specific information, begins to act for the benefit of the company. Such an approach to business, allows to optimize the management area associated with innovations.

2. Innovations and globalization in the terms of information

Globalization is associated with the development of information and communication technology, particularly the Internet²¹. Analysing its influence (in terms of information) to manage innovation in the enterprise, it is necessary at the beginning, to visualize its commonness of the network and its resources usage²². According to a study, in January 2015 in the world there were more than 7 billion people and more than 3 billion were Internet users, more than 2 billion have accounts in social media, more than 3.5 billion users of mobile devices and over 1.5 billion have accounts in social media through mobile devices²³. Considering the actions that are taken in the network, they can be reduced to an overall information actions- acquisition, processing, use and provision of information. These activities are based on information from and the network, occurring both in the virtual and the real world. Therefore, they have an impact on the whole of human life and structures created by him – including enterprises.

In each case, the result of information is determined response. It can rely on the amendment, but also cause to take steps to implement an innovation (and thereby change). Adopting human functioning as a base, and hence the structures created by him, striving for: the development, gaining competitive advantage, gaining positions in the group, improving living conditions, innovation should be considered as a natural and integral part of life. Innovations in turn are a derivative of information. Thus, human functioning is closely linked to information sphere of his life.

The results of the research presented in 2014, contained in the Global Innovation Barometer 2014 report - the results for Poland²⁴, show that 95% of respondents believe that the innovations introduced over the last 10 years have helped to improve their quality of life. At the same time 92% of respondents noted that innovation increasingly have a global dimension - "Innovation is increasingly have a global dimension. Combining the talents, ideas, insights and resources around the world is the only way to achieve success in innovation". The study also confirmed the thesis that cooperation has a positive effect on innovation - 89% respondents believe in that - "cooperation with external partners, carries the risk of infringement of intellectual property and trade secrets. However I can take that risk, because the cooperation in the area of innovation is profitable nowadays". Among the most important skills, the companies should have, wanting to successfully innovate, most often is mentioned: understanding customer's needs and predicting

market trends - 83% respondents, the ability to rapidly assimilate and implement new technologies - 73% respondents, identification and cooperation with the best external business partners - 64% respondents. It should be also noted that only in the opinion of 33% respondents, units employing them are able to fully recognize the customers' needs. For significant barriers to the implementation of innovations respondents recognize the lack of adequate investment and financial support - 20% respondents, difficulty to work out innovative and groundbreaking solutions - 16% respondents, the inability to create a suitable business model - 8% respondents. Interesting results were obtained regarding the question about the time in which innovation should be prepared and implemented. 53% respondents believe that, companies should not hurry and it is better to refine the product. The opposite opinion – time counts, so there is need to act quickly - have 47% respondents. Commenting on the results it is clear that the time in dynamic reality is very important, while the effect of innovation cannot be defective. It seems that the risk reduction in this respect is possible through active management in the information in this area of communication. It should be remembered that "late" innovation, particularly in terms of product brings less benefit. On the other hand, in the aspect of the technology or organization, it appears that refinement more counts, although time is critical here as well.

Being active in the sphere of information requires storing large data resources. The aim is to make the analyzes, predicting events and planning own behavior, including terms of innovation. In the cited study, 46% respondents said that the analysis of forecasting were important for innovation.

Conclusion

Innovation introduction and the efficient management are one of the most important factors in the success of a business environment characterized by environment's volatility. This volatility also contributes to an increase in the complexity of innovation management. The factor that is gaining its importance in the competitive struggle in a dynamic market is time. Being the first, meaning the introduction of new products before other increases the chances of success. This peculiar race of competing organizations is related to the exploration, acquisition and practical use of information.

Looking up for information allowing to gain knowledge about upcoming events. In the strategic context, they are definitely more important than information about events that are currently visible – are present here. With a higher value they are also much more difficult to identify and acquisition. Gaining this kind of information allow to make a decision about the need to start efforts to introduce the innovation.

By introducing innovation, it should not be based solely on own resources and abilities. As shown cited in the article research results in the area of innovation, companies should cooperate with individuals, having, inter alia, relevant knowledge, skills and resources. Collaboration allows, from the one hand to reinforce the impact of innovation and on the other to increase the chances of achieving the desired objectives.

The cooperation establishment is related to the need to identify those market players who have the qualities to predisposing. As can be noted the initiation of innovative activities and their implementation are related to the management of information in the sphere of human life²⁵. Today, thanks to information and communication technology, particularly the Internet, world has become a global village. Practically at any time

²¹ B. Ślusarczyk, S. Kot, Polish government impact on foreign direct investments, in: Polish Journal of Management Studies, vol. 6/2012, pp. 45-54.

²² A. Ptak, M. Daroczi, *Information Technology Tools Supporting Project Management, Current Problems of Maintenance of Electrical Equipment and Management. Monograph. Eds. Michal Kolcun, Lech Borowik, Tomasz Lis, Technicka Univerzita v Kosiciach, Kosice, 2014, s. 363-371*

²³ „Digital, social & mobile In 2015” report, available at: <http://smmeasure.eu/liczby-polskiego-internetu-2015/>, access on: 10.01.2016.

²⁴ Original report available at: <http://www.gereports.com/innovation-barometer-2014/>, polish edition available at: <http://www.spinno.eu/component/jdownloads/finish/220/487>, access on: 12.01.2016.

²⁵ J. Grabara, Funding Sources to Increase the Level of Innovation of Polish Enterprises from the SME Sector, International Conference on Horizontal Approaches in Education and Culture in the Context of European Macro-Strategies. 30 October 2013, Bucharest

by connecting to the Internet, we can send or receive information from units located anywhere in the world. Thanks to the Internet we can reach all the information we need. It is in this respect a source as well as a tool to reach. According to the authors, this globality in terms of information is one of the main reasons for the dynamism of today's markets. This is due to the nature of human functioning. Everything we do is due to the information. Since we have virtually unlimited access to information, but also we are a source of information for others, and there are no time and place restrictions thus a virtuous cycle takes place. The amount of related activities following in a very short period of time increases. These activities generate more information, and the next steps as well.

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