Pichugina M. A. Key factors of enterprise innovation activity [Internet source] / M. A. Pichugina // Economic Processes Management: International Scientific E-Journal. – 2015. – № 1. – Access mode: http://epm.fem.sumdu.edu.ua/download/2015_1/2015_1_15.pdf

Received 18.02.2015

УДК 338.24 JEL Classification: O310, O320, O330, M2

KEY FACTORS OF ENTERPRISE INNOVATION ACTIVITY

Pichugina Maryna Anatoliivna

PhD in Economics, Associate Professor of the Department of Management, National Technical University of Ukraine «Kyiv Polytechnic Institute», Ukraine

The article deals with the studies of factors and conditions that define enterprise innovative activity. It is distinguished factors that influence the orientation on innovation of a company and factors that influence the innovation ability. It is noted an interdependence between innovative ability, orientation and activity. The article is also dedicated to analyses of influence specific industry characteristics and inner view of enterprise. It is discussed the influence of such factors as knowledge base, the organizational learning mechanisms, an external openness and the structure of innovative connections on the company opportunities to innovate. It is tried to focus on the impact of the environment on enterprise capabilities.

Keywords: *innovation activity, ability to innovate, orientation on innovation of a company.*

Introduction. In today's dynamic global economic the involvement in the innovation process is a condition for the development of unique competencies and so for the competitive advantage. The survival and success of the business depends on its ability to innovate. Clear, not every company innovates and produces innovative products, but these "innovative passive" are becoming a rarity the further the more as innovation is not a goal but a means of improving competitiveness. This article is dedicated to the factors and conditions that determine the desire of a company to innovate and ability to do this.

Analysis of recent researches and publications. Analysis of modern economic literature allows to note that the most significant results of the study of the innovation activities are reached by the economists classics (Schumpeter J., Mensch G., Kleinknecht, A., Freeman C., Mansfield E., Drucker P. and others). Issues of innovative activity assessment are affected in the works of such scientists as Twiss B.,

White P., Pinnings J. and others.

Also, the studies focus on various factors that determine the innovation ability. Thus, scientists highlights the importance of sharing knowledge between companies and organizations (Patel P. [6], Pavitt K. [7], Freeman, C., Soete, L. [3]), or emphasize the inter-firm cooperation and introduce the concept of «innovative milieu» (Morosini P. [5]).

Previously unsettled problem constituent. However, the existing approaches to innovation activity management are multidirectional and do not provide a comprehensive description. So the study of the intership and interdependence of all elements of the innovation activity is required.

Main purpose of the article is to identify the factors influencing the innovation activity of enterprises and to determine the environment impact on the enterprises' ability to innovate.

Results and discussions. The article are focused on the factors and conditions that determine the enterprise innovative activity that depend on innovation ability and motivation to participate in the innovation process and therefore we distinguish:

- factors that influence the orientation on innovation of a company;

- factors that influence the innovation ability.

Innovative orientation – the intention to create new and transfer innovations within and outside the company, understanding the importance of innovation process.

Innovative ability – means, resources, power, qualities that can be used in the innovations of the company.

Innovation activity is an active participation in the innovation process aimed at increasing the enterprise competitiveness.

We suggest to consider these characteristics in a logical connection (Fig. 1).

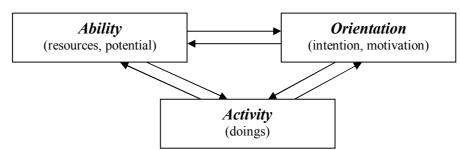


Fig. 1. Interdependence between innovative ability, orientation and activity (developed by the author)

The company's focus on innovation is affected both internal and external factors. The analysis of the literature shows that authors explore the connection between the environment and industry structure with managerial practice. For instance, Pavitt K. identifies five classes of industries based on methods of organization and management of innovation process [7]:

1. *Dominate suppliers* (agriculture, construction, health). Most enterprises in these industries are small business and most innovation appear in their suppliers.

2. *Scale intensive* (metallurgy, petrochemical, food industry, car industry). These areas are mature. Competition is based on differentiation and price. The main type of innovation is associated with the processing and reducing production costs.

3. *Information intensive* (banking and consulting, design firms, etc.). Innovation is based on new knowledge, communication technologies.

4. *Science-Based* (the high-tech industries such as microelectronics, pharmaceuticals, biotechnology, aerospace industry). Here the main role is played by R&D, the main attention is paid to product innovation.

5. *Specialized suppliers* (machine-building, instrumental production, software and more). The size of companies is medium and innovation are made in the project and engineering.

This approach can partially explain the differences in the ways of implementing innovation.

D. Tees in his research made focus on the structure of industries and technology. He identified three major blocks that define the innovation management [8]:

1. Appropriability regimes – factors that determine the possibility of receiving income from innovations. For example, patents and other intellectual property rights, economies of scale, trade secrets, etc.

2. Dominant Design Paradigm. Tees highlights two stages in the life cycle of the product: the early "pre-paradigmatic" which is characterized by the existence of project of many types and standards, it is a period of trial and error on the market that creates the conditions for the emergence of dominant version, and paradigmatic stage, the actual appearance of the dominant option that determines the design paradigm, the following models are modernized variations of the the dominant.

3. Complementary assets that are necessary to commercialize innovations (production, promotion, etc.).

Also the focus on innovation is determined by the nature of enterprise itself:

- Inventor-entrepreneur – the invention is to create a radically new product, which is often promoted by the inventor itself on the market;

- Large in-house research and development – a significant number of professionals are united in special departments of companies, which systematically improve existing processes and products;

- Network-innovation – occur when different actors combine their knowledge, improving an existing product or process, or even creating new ones. In contrast to the well-organized research, networking can take place without planning, but require cooperation of several organizations [3].

Hence we offer to consider the next factors in determining the causes and prospects of company's focus on innovation: the class of industry and methods of the

management of innovation process; the life cycle of the product and the nature of enterprise (Freeman's classification). These factors are both internal and external.

We think that specific conditions that mentioned above stimulate and create innovative behavior, but the idea to engage in innovative activities may arise without some pressure, as a result of strategic vision of company top-management.

Besides the motivation to innovate the company opportunities determine its innovative activities. The authors distinguish different factors that determine the innovation ability. We agree that innovative activity of the enterprise is significantly determined by its innovation potential. However, in this article the aim is to analyze such scientific approaches to enterprise innovation ability that harmoniously combine internal and external. Thus, Asheim, B. and Gertler M. [1] noticed the importance of the knowledge base (Table 1).

Analytical knowledge base	Synthetic knowledge base
- using or a new combination of existing knowledge;	- creation of new knowledge;
- the importance of applied knowledge;	- scientific cooperation between firms and
- learning through interaction with customers and	research organizations;
suppliers;	- predominance of knowledge in patents;
- specific know-how, practical knowledge and skills.	- more radical innovations.

Table 1. Two types of the knowledge base [1]

The enterprise could face serious problems relying on "synthetic knowledge". These problems result from the effect of "closed" – the dominant technological trajectory is just modified or not does not change until it becomes unable to compete due to lack of innovation.

N. Karbonara highlights the various organizational learning mechanisms that reflect the process of change, choice, diffusion, competition for resources [2]: learning by using and doing; exploiting of creativity; learning by localizing; learning by specializing; learning by interacting; learning by R&D.

In today's dynamic global economic the enterprises are forced to cooperate and thus increase their potential. The organizational learning mechanisms as well as source/absorber positions depend on external openness of the enterprise:

- technological gatekeepers – have a central position in the cooperation network, spreading knowledge within and outside;

- active mutual exchangers – firms that form a central part of the local knowledge system with balanced source/absorber positions. They also have relatively strong external links.

- isolated firms – the cooperation with other firms is negligible;

- external stars – mainly focus on external knowledge and connections;

- absorbers - use knowledge created by others;

- producers of knowledge [4].

Thus, the company's focus on innovation is considerably affected by external factors. Its innovative capacity are also determined by external potential - potential of partners. In our view the company isolation or unilateral connectivity greatly reduce firm chances of being successful innovative. So the innovative partnerships, alliances, networks are widespread. Therefore, we suggest to consider a firm's place (Fig. 2) in the structure of innovation interrelationships for the company innovation ability analysis.

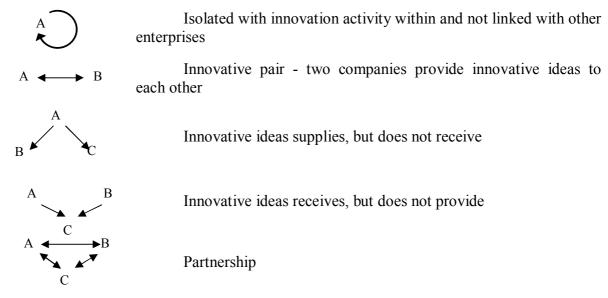


Fig. 2. Innovative interrelationships [9, P.113]

The way the company build the structure of innovative connections determines its place. Experience shows that individuals have little chance of survival.

Conclusions and further researches directions. Management of enterprise innovative activity begins with a comprehensive description of this aspect of the activity. It is impossible to make correct management decisions without a thorough analysis of the relationship and interdependence of all elements of the innovation activity. However, existing scientific approaches to the factors which determine the innovative activity of the enterprise are multidirectional. Therefore, this article attempts to systematize these factors. In addition, it is tried to focus on the impact of the environment on enterprise capabilities.

To determine the reasons for participation in the innovation process, we highlight:

- factors that influence the innovation orientation, ie the inclination and intention to create and disseminate innovation;

- factors that influence the innovation ability, ie the possibility for innovative activity.

Certainly the innovative orientation and the ability are interconnected, such a division is suggested for the purpose of theoretical analysis.

Further researches directions can be deepening the theoretical analysis, the development of assessment methodology and methods to predict the enterprise innovation activity.

References

1. Asheim, B.T., Gertler, M.S. (2005). The geography of innovation: regional innovation systems. In: Fagerberg, J., Mowery, D., Nelson, R. (Eds.), The Oxford Handbook of Innovation. Oxford University Press, Oxford, 291–317.

2. Carbonara N. (2003). Innovation processes within geographical clusters: a cognitive approach. Technovation, 24 (1), 17–28.

3. Freeman, C., Soete, L. (1997). The Economics of Industrial Innovation. London, Washington.

4. Giuliani. E., Bell. M. (2005). The micro-determinants of meso-level learning and innovation: evidence from a Chilean wine cluster. Research Policy, 34, 74–68.

5. Morosini P. (2004). Industrial Clusters, Knowledge Integration and Performance. World Development, 32(2), 305–326.

6. Patel, P. (1997). Localized Production of Technology for Global Markets. Technology, Globalisation and Economic Performance. D. Archibugi and J. Michie. Cambridge; New York and Melbourne, Cambridge University Press, 198–214.

7. Pavitt K. (1990). What we know about the Strategic Management of Technology, California Management Review, Vol. 32 (Spring), 3–26.

8. Teece, D. (1986). Profiting from technological innovation: implications for integration, collaboration, licensing and public policy. Research Policy 15, 285–305.

9. Sokolenko S. (2004). Klastery v globalniy economici [Clusters in global economy]. Kyiv: Logos.

КЛЮЧОВІ ЧИННИКИ ІННОВАЦІЙНОЇ АКТИВНОСТІ ПІДПРИЄМСТВА Пічугіна Марина Анатоліївна

кандидат економічних наук, доцент кафедри менеджменту,

Національний технічний університет України

«Київський політехнічний інститут», Україна

Стаття спрямована на дослідження чинників та умов, що визначають інноваційну активність підприємства. Виділено фактори, які впливають на інноваційну орієнтацію впливають інноваційну компанії та фактори. що на здатність. Відзначено взаємозалежність між інноваційною здатністю, орієнтацією та активністю. Стаття присвячена також аналізу впливу галузевих особливостей і внутрішнього бачення підприємства. Розглянуто вплив таких чинників, як база знань, організаційний механізм навчання, зовнішня відкритість підприємства та структура інноваційних зв'язків на можливості компанії приймати участь в інноваційному процесі. Акцентовано на впливі навколишнього середовища на можливості підприємства.

Ключові слова: інноваційна активність, інноваційна здатність, інноваційна орієнтованість підприємства.

КЛЮЧЕВЫЕ ФАКТОРЫ ИННОВАЦИОННОЙ АКТИВНОСТИ ПРЕДПРИЯТИЯ Пичугина Марина Анатольевна

кандидат экономических наук, доцент кафедры менеджмента, Национальный технический университет Украины «Киевский политехнический институт», Украина

Статья направлена на исследование факторов и условий, определяющих инновационную активность предприятия. Выделены факторы, которые влияют на инновационную ориентацию компании и факторы, влияющие на инновационную способность. Отмечена взаимозависимость между инновационной способностью, ориентацией и активностью. Статья посвящена также анализу влияния отраслевых особенностей и внутреннего видения предприятия. Рассмотрено влияние таких факторов, как база знаний, организационный механизм обучения, внешняя открытость предприятия и структура инновационных связей на возможности компании участвовать в инновационном процессе. Акцентировано влияние внешней среды на возможности предприятия.

Ключевые слова: инновационная активность, инновационная способность, инновационная ориентированность предприятия.