

Improving of Innovation Potential Efficiency of Industrial Enterprises

¹Helena Danilina and ²Zhanna Mingaleva

¹Moscow State University of Instrument Engineering and Computer Science, Moscow, Russia

²Perm National Research Polytechnic University, Perm, Russia

Abstract: This article is to discuss the questions of more active involvement of the innovation potential of industrial enterprises in the formation of the final results of its activities. To achieve this, we defined the innovation potential of the industrial enterprise and analyzed its structure with characterization of the main blocks and components. According to the role of individual components in the innovation potential of the enterprise, they are combined into three blocks with different functional significance: resource component, supply component and effective component. Totally, ten elements (components) of the innovation potential of industrial enterprises-the most important for research, invention and innovation activities were allocated. Brief descriptions of each component, an assessment of their contribution to the innovation development of enterprises and recommendations for their promotion have been provided. Financial, human, creative and effective components which are the “core” of the innovation potential were performed as basis elements.

Key words: Innovation development • Essence of innovation potential • Elements of the innovation potential of industrial enterprises • Structure of innovation potential

INTRODUCTION

Innovation development of national enterprises remains at an unacceptably low level compared to the requirements of global trends and the objectives of socio-economic development defined in its regulations. At the same time, many Russian companies have considerable unused innovation potential remained from the Soviet period and appeared during economic activity [1-2].

This situation raises the question on the need to activation of the capacity of all innovation elements of the industry to meet the challenges to improve the financial and economic performance of their operations and make them more competitive both on national and international markets [3]. However, according to expert assessment, the present innovation potential of Russian enterprises is demanded by at least 10%. As a result, enormous resources are not realized and economic growth is slowed.

Theoretic and Methodological Background: Evaluation of composition and quality of innovation potential of industrial enterprises, its role in the outcome of the company, in creation of the reserves for the future and

their development were studied in a number of national and foreign studies [4-15].

In national economic literature, there is no developed a clear interpretation of the concept of innovation potential of the industrial enterprise yet. Consequently, there are no unified approaches to distinguishing of the elements and structure, as well as factors affecting its status, the level of use in the industrial and commercial activities of the enterprise and opportunities for its development and improvement. This makes the difficulties to develop scientific and practical recommendations on its use.

This is confirmed by the large number of definitions of “innovation potential of industrial enterprise” presented in the national science [16-21]. The most extended definition among these was accepted by us as the basis of our study, without detailed assessment of each definition of innovation potential of the industrial enterprise that enabled us to identify the maximum complete combination of elements and components including their relationships.

According to our approach, the innovation potential of the industrial enterprise is a combination of characteristics of the enterprise which determine its ability for creation and practical use of innovations.

The essence of innovation potential of the industrial enterprise is this not only a complex system and also a result of the common development of the enterprise.

Thus, the innovation potential of the industrial enterprise consists of the resources for innovation activities and ensuring internal factors, as well as its outcomes. We agree with some authors [22] that the innovation potential of the industrial enterprise can be represented in three blocks with different functional significance: resource, supply and effective components.

In this case, the innovation potential of the industrial enterprise interacts with elements of all related subsystems of enterprise and affected by these.

To develop a mechanism of the effective management of innovation potential of enterprise, we have to allocate its main structural elements and assess their place and role in the overall innovations in the enterprise.

The Structure of the Innovation Potential: We assume that innovation potential of industrial enterprise consists of the elements described below.

Human Component: Includes all kinds of scientific and technical employees of enterprises capable to generate and implement the new scientific and technological ideas, undertake research, technical, organizational, informational and other work as well as to be the mentors. Human component is characterized by quantitative and qualitative (skill) characteristics of scientific-research employees of a company, professionals and workers. This is important in terms of the feasibility of innovations (readiness of employees to adopt and implement new concepts) as well as in terms of their ability to form the scientific and technical complex i.e. participate in inter-organizational research projects.

Material and Technical Component: Is the presence of certain level engineering and technology in the enterprise, i.e. reflects the technical and technological readiness of the enterprise to implement the innovations (nanomaterials can hardly be produced using the old equipment i.e. impossible to implement the informational technologies just using a calculator, etc.). In addition, material and technical component includes tools and objects of scientific work which create the necessary conditions for the implementation of scientific and technological activities within the company, reflect their volume and qualitative composition and characterized by the instrumental, equipment, test-experimental base, age and a structure of industry capital assets and its research department, etc.

Information Component: Includes the volume of accumulated and systematized knowledge and achievements, reflects the level of information support of scientific and technological activities and the production process as well as quantitative and qualitative indexes of systems and data collection, processing, analysis and dissemination of information.

Organization Component: Is the presence of the company's divisions and departments involved into research and development as well as the organization of research activities at the company, methods of funding, etc. This component also characterizes the composition, structure and coherence with other organizations, enterprises forming a branch of "science and scientific services".

Financial component is the money funds at the disposal of the company and allocated to research and innovation, the development of science and technology. Thus, a part of the funds is spent on replenishing to scientific and technical resources, the other part to operational activities and the third to development.

Effective Component: Represents the results of company operation as whole and single units including research and innovation activities. The component reflects the degree of realization of the company's resources and possibilities of innovation activities.

Management Component: Describes the ability of the company's management to attract resources on a commercial performance for the initiation, creation and distribution of various research and development products including the methods and techniques for the management of these processes.

Legal Component: Describes the current company's protection of intellectual property and corporate standards to stimulate scientific research, invention and innovation activities. Depending on the development degree (strong or weak) of this component, it can significantly influence on decision making processes in companies on key questions of science and innovation development.

Social Component: Is a group of moral and material incentives for research, invention and innovation activities of a company.

Creative Component: Includes creatively thinking employees and creatively minded managers who are ready to implement the research, invention and innovation activities.

Analysis of the role and importance of each of these components for the innovation development of the company has revealed that despite of the significance of all components, each of them separately can not be the basis for the successful implementation and full participation of innovation potential into the economic and commercial activities of the industrial enterprise. Only by close interaction of these components, they accumulate and allow the company to use the innovation potential in full.

However, some of these components are so-called “core” of the innovation potential and the significantly influence on research and innovation activities of an enterprise.

We assume that the financial and human resources are most important for assessment of the innovation potential of industrial enterprise. These components have the greatest impact on the efficiency of processes in science and innovation of the companies since these directly affect the quality of the final results of innovation activities and their quantity. Therefore, the financial and human resource components require special attention.

The financial component of the innovation potential of the industrial enterprise is the accumulated funds in the innovation sector of the enterprise which maintains the necessary level of material and technical components, infrastructure, wages and determining the amount of investment into new innovation projects, etc.

The human component of innovation potential of the industrial enterprise is human resources involved into creation of innovation ideas, technologies, processes, etc.

Therefore, these two components, their volume and quality are mostly determining the level of innovation potential of any enterprise. This high significance of selected components is a result of the key questions studied for the centuries, such as labor and capital.

Despite of the fact that human and financial components of the innovation potential of industrial enterprises are the most fundamental elements of its research and innovation activities and unlike the other components mostly determine the level of its development, there is a certain asymmetry in the degree of influence between human and financial component.

This asymmetry appears as the certain predominance of the financial component in terms of the influence on the innovation potential of the industrial enterprise. The financial component of the enterprise is able to attract

the modern mobile workforce in science and innovation as well as maintain the level of material and technical equipment of industrial enterprises, what, ultimately, will result to innovation and maximum utilization of the innovation potential of the enterprise.

Productive component is able to improve the material and technical component, improve working conditions for human component and most importantly, have a direct impact on the financial component by commercialization of the results of innovation activities and accumulation of additional funds received from implementation of innovations for their further extension.

Finally, a special role in the successful implementation of the innovation potential of the industrial enterprise has a creative component. We have noted above that present innovation potential of Russian enterprises is demanded less then by 10%. As a result, the creative potential of employees remains “in the shadow” and unclaimed.

Dedicated four components, in our opinion, constitute the core structure of the innovation potential of any enterprise. However, they interact and accomplish in an environment formed by information, legal, organizational and managerial components. Information component pervades all innovation activity of enterprise and consists of unique knowledge of researchers resulted in creation of new features and innovations as well as in the channels of communication and information field around the processes occurring in research-innovation activity of an enterprise. Legal, organizational and managerial components are responsible for the degree of implementation of the innovation potential of the company and its development. Thus, the managerial component affects the commercialization of efficient components.

A dedicated core of innovation potential structure of the industrial enterprise also affects the social component. Development of the financial components, increase of wages of employees in the scientific and research areas, the awareness on the prestige of innovation activities, which further affects the development of education, which is the basis of human resource component in the theory of development are instantly growing.

Thus, the acceleration of innovation processes in any industrial company requires:

- Available funds sufficient for scientific and technical, technological and product innovation;
- Appropriate material and technical base for the development and mass production of a new product;
- Employees, who able generate the innovation solutions and implement them without fear of risk.

CONCLUSIONS

Based on this analysis, the following conclusions have been made.

The company's divisions with specific functions and which together define innovation characteristics of the industrial enterprise serve as the basis for the realization of innovation activity.

Their combination, coordination and joint work of all divisions of the industrial enterprise responsible for the implementation of different types of innovation determine its ability to effective innovation activities in certain company to create and use the innovations.

Innovation potential must be determined both a simulation capability of enterprises to accept "existing" innovations, but also by the ability to "create the future" and develop self-improving changes and new values.

Thus, the development of innovation potential of any company influences the factors of its occurrence and the factors influence the innovation potential of the industrial enterprise.

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