

Specific Features of Management System Building for Modern Innovative Companies

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Abstract: The article describes the trends of innovative enterprises development at current stage and peculiarities and specificity of their operation. Functioning of innovative enterprises requires the simultaneous combination of operational and project management (to manage current business and perspective developments respectively). Specificity of modern organization operation imposes new requirements for the organizational aspects of management, competency of innovation managers and dictates the need of transformational leadership. The noticeable trend of the last two years has been the creation of Research & Development (R&D) divisions within the companies with a simultaneous increase in the status of managers responsible for the innovation management. One of the challenges facing companies' R&D is to evaluate the performance. Among the difficulties in evaluating R&D units there are significant duration of individual projects, a large spread of results between different projects and a significant number of failures. The main features of the modern innovative companies is the transition from the traditional "closed" model of R&D implementation to a new model of "open innovation"; the dynamism of development under uncertainty of environment leads to high risks of innovation. Specificity of innovative enterprise dictates the need for an effective risk management framework that will ensure the relevance of the project management of the corporate strategy risks and performance criteria on the basis of BSC.

Key words: Innovative enterprises development • R&D implementation • Management framework.

INTRODUCTION

Various research works indicate that the economic development of any country and its national competitiveness largely depend on enterprise innovation activities [1]. Modern companies are fighting for the lead in innovation, creating new technologies, based on their own research projects, using external sources and mainly using the approach based on personalization in knowledge management. The companies try to consider different ways of development of the product and the market, depending on the capabilities provided by the external environment and the company's ability to identify and take advantage of it [2].

Despite the fact that in recent years the government is taking active measures to stimulate innovation, scientific and technological gap between Russia and the world leaders remains and the amount of high technology products remains at the level of the middle echelon of the developing countries. According to the report of the

European business school INSEAD, in 2012, Russia ranked only the 51th place in the innovation rating [3] being inferior to such countries as Estonia (19th), Latvia (30th), Lithuania (38th), Poland (44th), Saudi Arabia (48th) and Moldova (50th).

One of the reasons of the low innovation activity of many Russian companies is disadvantages of the formed system of research and development management, including the following ones:

- Management of innovation processes is carried out without taking into account changes in the external market environment and customer requirements,
- Prediction of the trends in industrial technology is not realized, benchmark methods in the field of innovation and technology commercialization are not applied;
- Development of the forecast for the industrial technology development and innovation benchmarking are virtually non-existent;

- Weak interaction of the marketing departments with technical services during the development of new products.

Based on the above, at the present stage of development especially acute is building of an effective system of innovative enterprises management considering the features of the prevailing business conditions.

Key Part: Currently, the successful business development as once before is largely due to the need for companies to continuously improve their products (services rendered). Current economic situation imposes so strict requirements to the companies that they can not do with the usual decline in spending, manipulation of prices or structural reorganization; tough competitive environment requires from the companies the ability to reach potential customers interested in their new product or services. EU Directorate General Enterprise and Industry, based on the analysis of thousands of German companies, indicates “successful introduction of new products or services” as one of the most important reasons for the growth of business [4].

The term "innovation" in the scientific and economic literature is often used as a synonym for the word “innovation”. At the same time, according to the author, these concepts should be differentiated.

The term “innovation” is understood as a result of intellectual work, which includes all types of research and invention: a device, technology, service, program, etc. From this perspective, a certain amount of innovation is inherent to many companies. So, many of the companies now have on their credit a variety of intellectual property in the form of patents, know-how or the independently developed software systems.

The term "innovation" is understood as the end result of the innovation process, which is the innovation assimilated in the market. The invention will have an impact on the economic growth of business only when they are not simply on the company balance, but are used in its practical activities. That is "innovation" is a novelty that was used by a company for commercial purposes (that is, has been brought to the consumer in the form of a final product or service).

Companies that focus on building (acquisition), production and marketing of innovative products or services were called “innovative companies” [5]. The organizational forms of such enterprises, from a legal point of view may be different, but they have one thing in common: they are either research and production

companies (i.e. for which scientific research, design and manufacturing are the main activity), or purely scientific (i.e. have no production activity and are involved only in research and development). Innovative enterprises may be both separate legal entities and part of a larger organization.

Innovative company management is actually an innovative management, including functions of planning, organizing, directing and controlling the innovation process. The innovation process is a complete cycle of scientific, industrial and commercial activities in the design, creation, development and diffusion of innovations.

The structure of the innovation process is formed by five main stages (Figure 1). All stages of the innovation process from basic research to a new after-sale service of new products are closely related to each other and ensure the continuity in time.

For successful implementation of the innovation process the innovation company is viewed as a system of interacting structures: the production units, the marketing, financial services, etc. To solve the problems we should evaluate the necessary conditions, which include the availability of resources at the company (financial, material, human and intellectual) and "reserve" of developments and innovations, formed in a portfolio of innovations.

Progressing of innovations within any organization is largely determined by its structural features, i.e. form and methods of division of job duties, powers and responsibilities adopted in the enterprise.

The specificity of innovations as the object of control determines the specificity of the work of the innovative enterprise leader, which in addition to the general requirements (creative nature, comprehensive knowledge and analytical skills) are subject to specific requirements. The effective management of innovative enterprise requires the leaders based on knowledge and innovation during organization of interaction with the environment.

Maximum appropriate leadership style in an innovative company managing is transformational leadership, aimed at the development of both individual employees and the company as a whole.

Iranian scientists conducted a major study which sample consisted of 106 companies, of which 280 units have chosen to refer to different structural elements (such as managerial, executive, administrative and other links.) The study was aimed at determining the relationship between transformational leadership and organizational innovation among Iranian manufacturers. From the main

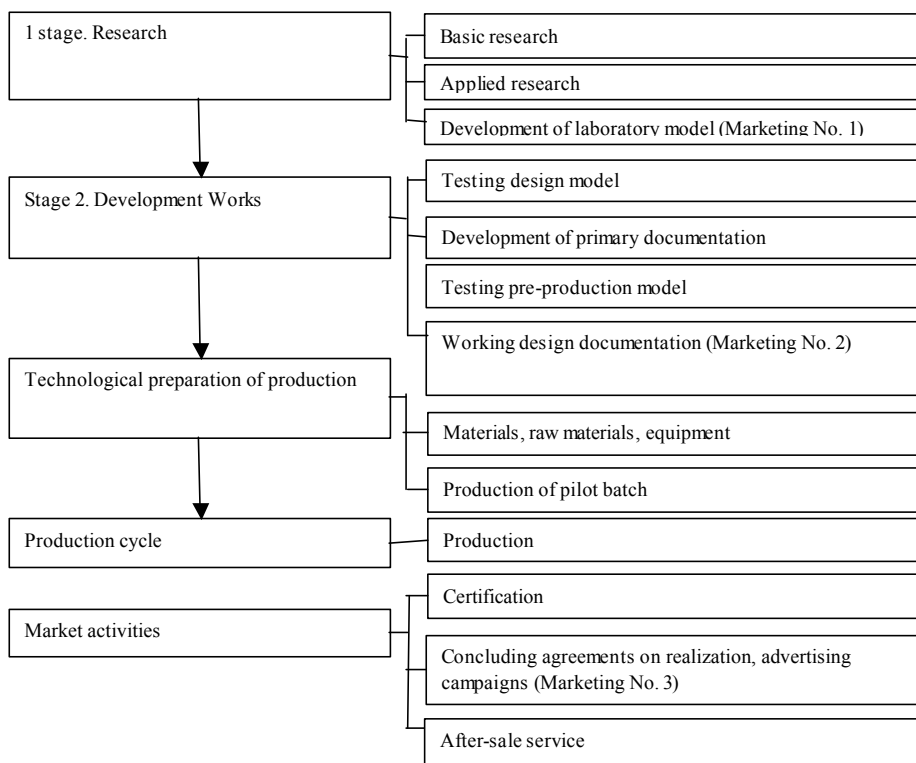


Fig. 1: The structure of the innovation process

results presented in this paper [6], it may be inferred that the transformational leadership directly depends on organizational experience and knowledge of the management. The organizational training has a positive effect on knowledge of the manufacturing enterprises management. Transformational leadership positively influenced the development of organizational innovation and organizational performance of industrial enterprises. If the leaders of the manufacturers have the qualities of transformational leadership, organizational experience and knowledge management, the trend towards the introduction of organizational innovation may be traced, thus improving the organizational efficiency and productivity of the company.

The economic activities of innovative companies combine two aspects: the production and sale of current products and the development and introduction of new and innovative products. The innovative company activities need to focus not only on current earnings, but also on future profits and the source of its generation. Accordingly, the task of providing and developing the functions that generate current income and the need to develop and introduce new products that will be the driving force of income growth in the future in the innovative companies should be implemented in parallel

despite the apparent differences in their goals and objectives.

Thus, the system of the innovation company management should be considered as a whole without separating the current and strategic activities. Respectively, in the control system there should be a combination of both the process (to control the current activity) and project (to manage perspective projects) approaches. The management, focusing only on the process approach, often leads to innovative project failures. On the contrary, the excessive passion for innovative projects threatens with a serious decline in the efficiency of the current activities of the company.

The evolution of the corporate management systems has resulted in the allocation of the function of innovation management into separate Research & Development (R & D) divisions while enhancing the status of managers who are responsible for innovation management. This is confirmed both by the interviews and quantitative data of the study, conducted by the Managers Association in 2011 [7]. The results showed that in the majority of cases (39% of large businesses) the innovations are managed by the leader of a specialized unit (either a Director of Corporate R&D-center, or a Director for Innovations) (Figure 2).



Fig. 2: Job level of employees, who are responsible for direct management of innovation in the companies in various industrial branches, %.

The current stage of development of innovative enterprises is characterized by a shift from the traditional "closed" model of R&D implementation to a new model of "open innovation", involving extensive interaction with external sources of ideas and technologies.

Therefore, during implementation of the innovative projects one of the main tasks of management is the development of cooperation with external developers: universities and enterprises established within them, specialized industrial research institutes, engineering companies, as well as with individual developers.

A distinctive feature of the present stage of development of innovative enterprises is dependent on the dynamics of the environment. Therefore, analysis and constant monitoring of the environmental factors of an innovative company making it one of the most important functions of management, provides important information for elaboration of strategy and development, construction of the "road maps", which are an important management tool.

Direct impact on the development of innovative enterprises is rendered by such factors as political stability, legal framework, social culture, the financial policy of the state, the level of development of science and technology, the stage of market development, environmental [8].

One of the main difficulties in the development of innovative companies is the uncertainty of the environment [9]. The dynamism of the environment results in a high degree of innovation risks as compared to conventional processes of production and economic activity that can lead to failure of the innovation project.

Creation and promotion of a new product should be recognized as more complex in relation to the production process of the traditional enterprise. Innovative enterprises, as opposed to production, are not focused on

repetition and reproduction of the same product, but on the search and development of a new one. Although in some industries the innovation processes are relatively standardized (for example, in the pharmaceutical industry the development of each new drug involves a number of similar steps), but in many other industries, each innovative project can be unique.

American economist E. Mensfeld who studied 120 large U.S. companies, found that about 60% of R&D results never reach the market. In addition, researchers often indicate at the excess of actual cost of the study and the actual timing of the projects [10]. According to U.S. economists, investment in innovation in 15% of cases are completely lost, in 25% of cases are associated with a loss of over a longer time than expected, in 30% yield in few benefits and only in the remaining 30% the return allows multiple excess of costs. [11].

All this makes the risk management one of the biggest challenges faced by the system of an innovative company management.

Management of innovation risks means a series of practical measures formed on the basis of principles, methods and tools for decision-making with regard to the criteria of efficiency, thus reducing the uncertainty of the results of innovative products implementation, improving the efficiency of the innovative projects, reducing the cost of achieving the goals of innovative development [12].

Analytically the magnitude of the risk may be defined as the product of the probability of adverse events and its price (i.e. the size of costs for liquidation of consequences). As a probability value the risk is calculated by integrating the corresponding function.

Risk management is aimed at minimizing the negative effects of the risk events. The risk management process includes the following steps (Figure 3):

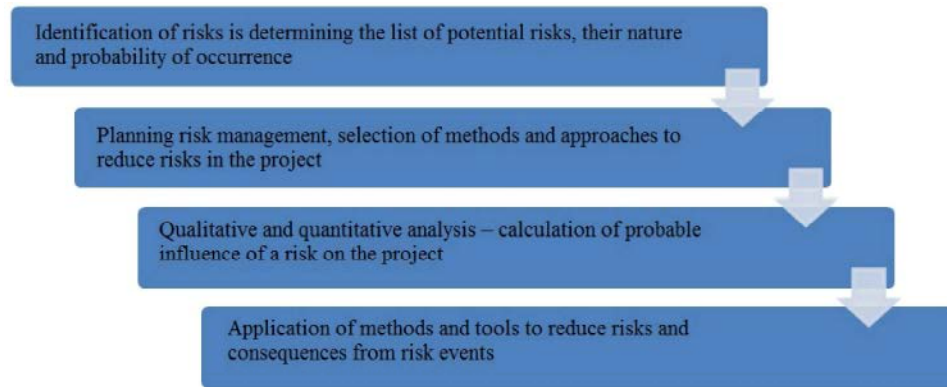


Fig. 3: The process of risk management in innovation enterprise.

Table 1: Performance criteria of R&D department based on SCP

Segments	Strategic indicators	Criteria of work quality of R&D unit
Financial	Survival	Income/expenses Average cost of one new product development
	Stability	Current interest from new product sale Share of the market of new products
	Prosperity	Accuracy of evaluation and income planning
Client	Satisfaction of client	Consumer value of innovation
	Compliance with internal and external consumer demands	Clients' satisfaction with new products
	Loyalty of clients	Sales of new products
Internal business	Efficiency of R&D unit	Approval of new product implementation
		Average development cycle
		Quality of new product
		Labor intensiveness

One of the challenges faced by the companies within R&D is to evaluate the performance. Among the difficulties of R&D units evaluation is long period of some projects implementation, a large spread of results between different projects and a significant number of failures.

Specificity of innovative enterprises necessitates the creation of an effective risk management framework that will ensure the relevance of the project risk management to the corporate strategy and the system for assessing the effectiveness to increase the rates of innovation projects success and achieve the corporate strategic goals.

In order to identify the main criteria of the quality of innovative organization performance based on sustainable vision and strategies it is necessary to develop a balanced system of indicators (scorecard). CSP is a management subsystem that allows an innovative organization to combine vision and strategy with everyday functions as well as to monitor the implementation of the strategic objectives. Implementation of the strategy depends on the success of tactics structuring. In CSP the tactical and strategic components are inseparable.

An example of the development of a balanced scorecard to evaluate the quality of the R&D department for IT-companies is presented in Table 1.

This system will allow transforming the organizational criteria of performance quality into the project performance criteria and the systematic way was developed to identify the risks, evaluation, planning, response and control.

The proposed system allows the R&D project to be focused on achieving the corporate objectives and provides a more efficient way to identify, evaluate, analyze and control the R&D risks along the project cycle.

CONCLUSION

Summing up, we can draw the following conclusions:

- Despite the continuing lag of Russia in the sphere of innovation, the second decade of the XXI century has coincided with a new stage in its development, which main feature is to overcome the indifference of the Russian business innovation;

- A specific feature of the present stage of the development of innovative enterprises is a shift from the traditional "closed" model of R&D implementation to a new model of "open innovation";
- Innovation is carried out in the conditions of uncertainty and high turbulence of the environment and is associated with higher risks compared with regular processes of production and business activities. Therefore, when making decisions about the implementation of the innovative projects, it is risk assessment that takes the role of one of the main components of investment project analysis.

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