Principles of Innovation Processes Management

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Abstract. The article discusses the major principles of innovation processes effective management. In the article there are defined the main participants of innovation process and functions of innovation process management. There is given a general diagram of innovation process management. Also there is stated that effective management of innovation processes is closely connected with combination of all the system elements in a company activity. Creation and wide distribution of new products and services becomes a determining factor of a company growth and development, increase of production, employment rate and of investments attraction. Innovative development is the most important factor capable of increasing company competitiveness. This factor is based on various kinds of activity such as scientific, social, production or financial activity. Innovations are aimed at significant increase of technical and economic efficiency of company activity.

1. Introduction
Innovative activity in modern society is the most relevant type of activity today. Adequate management is associated with implementation of innovations in life of society. Innovations play an important role in economy ensuring qualitative increase of operational processes efficiency and of demand for products on the market. Innovation is a fundamental component of entrepreneurship, it is always inherent to market economy.

Innovation processes management means management of research and development and production activity, company human resources intellectual potential aimed at improvement of currently available or launching of new products or services, and at improvement of production methods, organization and culture and, based on that, at meeting the need of society for competitive products and services.

2. Actuality
Innovative activity is activity based on application of research results for improvement of new products and their sales. This kind of activity is aimed at implementation of knowledge that is newly gained or previously used in practice, at implementation of methods, technology processes and equipment in order to increase economic efficiency of a company.

Analysis of foreign practices in the countries that are somewhat ahead of Russia in innovative development can lead to a conclusion that there is simply no alternative to implementation of innovations into production. Creation and wide distribution of new products and services becomes a determining factor of a company growth and development, increase of production, employment rate and of...
Due to increase of modern technologies influence on economic growth it is believed to be necessary to determine the modern role and importance of innovative development within a company management system. It is innovations that lead to renovation of market, increase of quality and growth of products and services range, to development of new methods of production, sales, to increase of management efficiency.

Thus perspectives of companies development are highly determined by implementation of innovations in companies which are the key factor of products, works and services competitiveness increase.

3. Theoretical part

While considering innovation processes management it is impossible not to touch upon the major principles. In the framework of economic systems there should be taken into account the features of the most innovation process, the general principles of company management and the features of innovation process participants. Summarizing all the above we can distinguish a number of basic principles of innovation processes management [1, 3].

Basic principles of innovation processes effective management are as follows: self-organization, organization of information flows, cyclicity, foresight, loyalty, integrity, continuity, focus, scientific validity, responsibility, development, resource support, consistency, variation, resistance overcoming, feedback, etc. [5].

Using the aforementioned principles one can successfully implement innovation processes, increase company intellectual assets, intensify income of new knowledge and intellectual activity [2].

The main role in the innovation process is given to its participants. Let's consider them more closely.

1. Customer – prospective owner and user of innovation process results.
2. Investor – natural person or legal entity that invests in innovations. As a rule, investor and customer are same. If they are different then an investor makes a contract with a customer, controls fulfillment of contracts made and carries out settlements. In the Russian Federation the following entities can be investors: bodies authorized to manage state and municipal property, organizations and business associations, other legal entities and natural persons. The main investors providing funding of investments are commercial banks.
3. Designers – special organizations developing design and budget documentation.
4. Suppliers – organizations providing logistical support (procurements and supplies).
5. Contractor – a legal entity holding responsibility for performance of works under a contract (including tertiary education institutions).
6. Scientific councils – leading specialists in various areas responsible for choice of scientific and technical solutions, level of their implementation, completeness and scope of measures to achieve the set goals, for competitive selection of contractors and for technical assessment of results [6].
7. Manager (senior manager) – legal entity that a customer authorizes to manage works, to plan, supervise and coordinate works.
8. Chief designers (area coordinators) – special organizational structure headed by a manager (senior manager) and established for the period of innovation implementation in order to achieve the set aims. They are the principal developers. Developer can involve special organizations to perform part of its functions.
9. Auxiliary divisions – organizations of various forms of incorporation aiding the main participants of innovations to perform auxiliary functions and forming together an innovative business infrastructure.
10. Innovation centers (incubators), new technology program support funds, consulting companies, independent assessment bodies, audit companies, exhibition centers and chambers of commerce belong to supporting structures.

General principles of company innovation activity (see Fig. 1).
Figure 1. Major principles of company innovation activity.

The figure shows that one of the principles - target orientation - shall ensure continuous flow of innovation process. Adaptivity allows innovation activity to reflect influence of company internal and external factors taking into account the changes. Efficiency – innovation activity that contributes to maximum efficiency of innovation process by reduction of innovation cycle, swift response to customer questions, etc. Optimal combination of authorities and responsibility of structures and divisions. Hierarchic structure, i.e. ability to ensure hierarchic interaction between elements of innovation activity. Consistency – clearly defined functions and their executors.

Active changes of environment have significant influence on innovation process management. They also determine the high requirements to education of employees and their personal qualities where initiative and entrepreneurial abilities are the most important.

Innovation process management shall ensure fulfillment of the following basic functions:
- cognitive (general knowledge increment);
- informational (its distribution);
- research (purposeful acquisition of knowledge in a certain area);
- transformative (improvement of existing and creation of fundamentally new objects and processes);
- economic (reduction of labor costs);
- motivational (stimulation of creativity);
- socio-consumer (provision of people with more and more sophisticated goods and services)
- resources and environment saving (development of natural resources-saving and environment-saving technologies) [4].

General diagram of innovation process management (see Fig. 2).
Management of the simplest type of innovation process, which is a relatively isolated sequence of actions with a final result and a set of traditional methods as means of implementation, is reduced to distribution of resources for provision of this process and to formation of certain incentives for all the participants to take part in this process.

One of the motivating tools for innovation implementation in process management is supervision of transition from one operation of innovation process to another [8]. On the other hand, certain operations of innovation implementation process have to be represented as separate elements which have a result of previous operations as entrance and products of this stage as an exit point.

4. Conclusion

Success of innovation implementation is significantly determined by the speed of execution of a logical chain of operation. It is achieved by reconciling of interrelated divisions upon transition from one operation to another. Motivation of organizations responsible for certain operations could be a good factor.

Based on the above one can affirmatively say that effective management of innovation processes is closely related to combination into a company activity process of all the elements of a system "science-technology-production-consumption" which should allow establishment of a distributed system of sales and servicing for encouraging of researches and inventions basing on introduction of a new type of relations – backward links in innovation process [7].

Global practice shows that state support of innovation activity is fairly necessary. Today we can say that state support of innovation activity in the Russian Federation is insufficient. That is why companies should plan and arrange innovation activity in the existing market conditions on their own.

5. References

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