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INNOVATIVE TECHNOLOGIES IN MANAGEMENT

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Abstract

Almost all innovation is the result of a concerted effort. Research shows that when developing a new product, businesses are constantly interacting with their suppliers, users, and research institutes, and the quality of such interaction has a clear impact on the innovation process. The relevance of the article is that innovative technologies in management play an important role in the growth of the enterprise and serve as an important competitive tool. The purpose of the article is to explore innovative technologies and the effectiveness of their implementation. Innovation management is also investigated, which should guarantee the effective use of innovations and directions for improving the efficiency of functioning and development of enterprises in competitive environments, taking into account innovative technologies. The article aims to structure innovations depending on the aspects of accounting, their types, and economic effects. We have proposed a generalized system of innovative management technologies based on other studies. A structured system of information support for innovations has also been developed to make effective decisions. The expediency of the application of innovative technologies in management is substantiated and their influence on the development of the enterprise is revealed. Although the relationship between innovation and financial performance is not straightforward and straightforward, our research indicates a strong interaction between sales growth and various innovations in business processes related to R&D spending work.

Keywords: *technologies, innovations, innovative technologies, innovative management, technologies in management.*

1 INTRODUCTION

The modern era of economic and social development is often called the era of technology. In technology, they see the saving of resources, the rational use of time, environmental protection of human beings, the safety of life, waste-free production, opportunities for automation of operations, and many more.

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That is, modernity is an era of technology, and to succeed, it is necessary to improve technologies that will lead to efficient, quality production. Equally important are the technologies of management, which solve consistently, purposefully, timely, economically and successfully set tasks (development and implementation of management decisions)

2 TECHNOLOGIES OF THE INNOVATIVE APPROACH

The word "technology" means, based on individual principles, methods, and patterns,

methods of action or a set of actions over an object, raw material, resource, to obtain a result, product, or new quality, condition (Kondratiuk, 2017).

In the works of O.G. Melnik and O.E. Kuzmin states: "management technology is a consistent flow of general management functions (planning, organizing, motivating, controlling, regulating), which implements specific management functions (production management, finance, sales, etc.). In other words, it is the process of implementing specific management methods using common management functions" (Kuzmin, 2003).

But Griffin R. believes that: "... it is a conversion process used to transform attachments (materials or information) into the release of goods or services." (Griffin, 2001).

Therefore, today requires significant reforms in the activity of enterprises, for successful development, and therefore it is necessary to introduce innovative technologies. It should be noted that information technologies ultimately contribute to improving the competitiveness and efficient development of enterprises.

The result of innovative technologies is innovation, which, from the moment of adoption to the dissemination of innovations, acquires new quality, and becomes innovation.

The uniqueness of the innovation process is explained by the integration into a single system of science, technology, enterprise economics, and management (Resler, 2017).

Thus, innovation is an innovation related to the scientific and technological process, which consists in the restoration of fixed assets and technologies, in improving the management and economy of the enterprise. Innovation is a prerequisite for the development of production, improvement of quality, and quantity of production, the appearance of new goods and services.

Technological innovations can rarely be developed by one firm in the space industrial environment. It usually takes a lot of additional innovations before the technology is suitable for commercial use. Many innovative strategies are based on the unique application of an integrated set of technologies in the market, rather than the need for a technological breakthrough. The technological innovation process consists of four main stages (Dasgupta, Sahay, & Gupta, 2009):

1. problem recognition.
2. idea generation.
3. the choice of technology.
4. development and implementation of solutions.

Given the above, Innovation management creates an entity that acts as a carrier of innovation, favorable and beneficial competitive advantages. Tearing resources from a routine cycle, the entrepreneur uses them in a new way. There can be at least five possible varieties of innovations:

- creation of a new product (service).
- creation of a new method of production.
- opening a new market for sales.
- use of a new source or type of raw material, energy.
- introduction of new principles of organization of activity of the firm.

Success or failure in the activity of an innovation manager fully opens the market, which places strict requirements on the results of its activity.

Innovation in a broad sense means the profitable use of innovations in the form of new technologies, types of products and services, organizational, technical, and socio-economic decisions of industrial, financial, commercial, administrative, or other nature (Fig. 1).

Innovation management must ensure the effective use of innovation and direction to improve the performance and development of organizations in a market environment, considering innovative technologies. The main functions of innovation management are analysis; prognostication; planning (strategic, ongoing, and operational); organization; motivation; accounting; control; coordination; regulation; leadership.

DNS technology management in general includes:

- development of plans and programs of innovative activity.
- supervision of the development of new products and technology, its implementation.
- consideration of new product and technology development programs.
- ensuring a unified innovation policy and coordination.
- providing financial and material resources for innovation programs.
- approval of temporary target groups for complex solutions of innovative problems - from idea to average production of products.

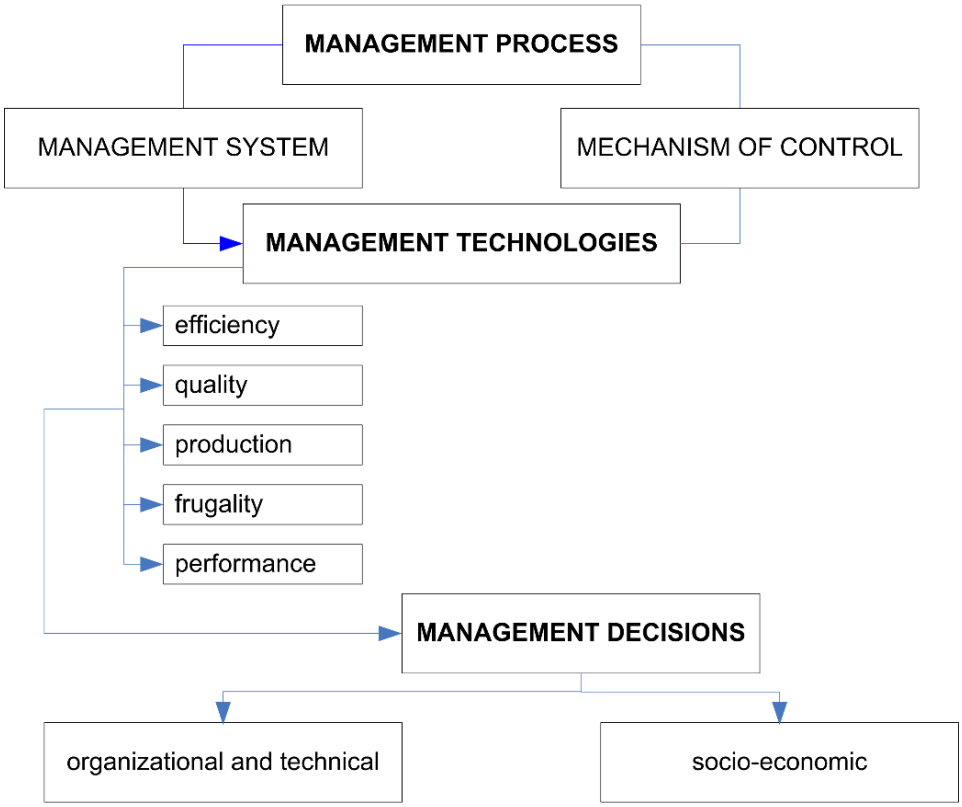

Fig. 1 Management technologies

Thus, the key role in innovative management technologies is played by the scientific sphere, which is regulated by the Law of Ukraine "On Scientific and Scientific and Technical Activities" (Zakon, 2020) and defines:

- the role of the state in the development of science and technology, the use of scientific and technical results to transform social production and meet the needs of people.
- the main goals, directions, and principles of the state scientific and technical policy.
- Forms and methods of state regulation of scientific and technical policy.
- the form and methods of state regulation in the scientific and technical sphere.
- powers of state bodies in the implementation of scientific and technical policy.
- economic and legal guarantees for the development of scientific and technical activities.

Innovation at the present stage of economic development is becoming the main means of maintaining competitiveness and becoming an integral part of business activity. Management of innovations is carried out in parallel with the management of the existing traditional enterprise. Innovation management methods are different from traditional production management methods since innovation processes are aimed at creating previously non-existent products, qualitatively updating production forces, and production relationships.

It should be borne in mind that time is constantly devaluing existing products and technologies so that to avoid technological backlog, innovations should be forecasted and dealt with constantly, and not only when critical circumstances arise. Product, technological and organizational innovations are interconnected, so they must be comprehensive. The main principles of innovation management are:

- the principle of continuous forecasting of the innovation situation.
- the principle of dynamic prevention of technological backlog.
- the principle of systematic introduction of news in the interconnected spheres of business activity.
- the principle of combining investment with innovation.
- the principle of combining financial and engineering analysis of innovation performance.

The main product of the innovation market is the scientific and scientific-technical result - the product of the intellectual activity, which is subject to copyrights, designed following the current international law and the current legislation of Ukraine.

Market development and competition not only stimulate but also force commercial organizations to take part in shaping the market for innovations in the following areas:

- development of a personal scientific, scientific-technical, and experimental basis for carrying out research works.
- researching on a commercial basis with other organizations.
- placing orders for research or experimental work with another organization.
- acquisition of licenses for the right to produce goods or services.
- purchase of finished products, technologies, know-how, and other intellectual property.

The main condition for the formation of the innovation market is the volume of investments in the field of scientific as well as scientific and technical activity. Given the length of the innovation process in 3-5 years, long-term and medium-term investments play a key role in ensuring that innovation is funded throughout the life cycle.

It should be borne in mind that innovations are always risk-related but refusing them is even riskier. Very often, the need to upgrade a product or technology arises when the financial results of the enterprise are looking good and the mistaken impression is that the enterprise may continue to exist traditionally for a long time.

The task of the innovation manager is to overcome this contradiction, to persuade the management and the whole team to make changes if it is possible at the expense of a temporary decrease in revenues to ensure their significant growth in the future. The fact is that the decline in investment income from existing traditional technology may initially seem insignificant, but if competitors make the breakthrough in new technology, consumers can very quickly favor competitors' new products.

Technology management requires large resources, the accumulation of a large amount of knowledge and information, the coordination of many performers, the formation of demand for new products, the psychological preparation of the team to receive news.

The innovations are related to the painful redistribution of resources between the existing and the new production, with the disturbance of the equilibrium in the economic system by the reorganization of production, the retraining of workers. Sometimes the decision of the management on innovations seems such that by artificially slowing down innovations, it is possible to lose perspective in the market of goods and services or to bankrupt the enterprise altogether.

Scientific and technological progress, identified in the world as the most important factor in economic development, is increasingly associated with the concept of innovation. It is a one-of-a-kind process that combines science, technology, economics, enterprise, and management. It lies in obtaining innovation and extending from the origin of an idea to its commercial realization.

The flow of the innovation process is conditioned by the complex interaction of many factors. The results of activity in the innovation sphere not only affect the society and the NTP, but also test for its reverse influence, and in all aspects: scientific, technical, organizational, social, industrial, economic.

To characterize the innovation process, a category is used to designate its most important internal component - the concept of "diffusion of innovation" (transfer and application of advanced innovation).

It should be emphasized that diffusion is not always a consequence of innovation, and possible reverse situations.

The following phases (stages) should be distinguished in the innovation process:

- achievement of fundamental science.
- applied research.
- research and development.
- primary development (production).
- widespread implementation.
- using.
- aging of innovation.

The higher the spread of innovation, the more "automatic" the channels of diffusion of innovation. Different methods are used to regulate innovation processes in different phases, as these goals have different goals.

Successful commercialization of technological innovation is largely determined using additional assets and knowledge that can be embodied in the marketing, production, and marketing activities of firms. The result of applying innovative technologies to an enterprise management system is determined by economic indicators such as (Zdobuvach, 2010) :

- the amount of increase in profit obtained by saving on cost reduction.
- the volume of increase in revenue from the growth of sales of innovative products due to its new quality.

The global survey of 201 companies in 9 cities showed that half of the companies believe that innovative efforts to significantly affect the increase in their income due to increased sales. Every fifth innovation leader expects a 15% increase in profits over the next five years. PwC studies have shown that the revenues of companies that spend more than 25% of their R&D budgets on software are growing faster than those of key competitors that allocate less than a portion of their development budgets. The last ten years of the Global Innovation 1000 Annual Survey have found no statistical correlation between the amount of R&D money and financial results.

That is, how innovative dollars are spent is more important than their number. According to polls, traditional scientific research is twice as inferior to models of operational cooperation. One-third of companies say that customers are their most important innovative partners. From the outside, technology partners are most important, and from the inside, our employees. However, to become an innovation driver, employees need innovative behavior and culture, fresh thinking, and innovative leadership from top executives (Zhmerenets'kyy, 2017).

The use of innovative technologies in management leads to:

- increase in productivity and flexibility of the enterprise.
- shortening the duration of the production cycle and/or increasing the speed of service provision.
- improving the quality of goods and services provided.
- Expansion of market presence.

3 CONCLUSIONS

The study found that the creation, development, and application of innovative technologies can serve as a basis for the success of the enterprise. Not only are innovative technologies an important competitive tool, but they also play an important role in enchanting enterprise efficiency. Although the relationship between innovation and financial performance is not only straightforward, our research indicates a strong interaction between sales growth and various innovations in business processes related to R&D spending. It has been found that innovations in the management process have a positive effect on financial results and market position.

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