

Management of Innovative Business Processes of Enterprises

Anisimov Yu.P.*

Voronezh State University of Engineering Technologies
Voronezh, Russia

Zhuravlev Yu.V.

Voronezh State University of Engineering Technologies
Voronezh, Russia

Kuksova I.V.

Voronezh State University of Engineering Technologies
Voronezh, Russia
e-mail: iris1982@yandex.ru

Balabanova L.I.

Voronezh State University of Engineering Technologies
Voronezh, Russia

Abstract — The article deals with the management of innovative business processes of enterprises, identifies problems of enterprise management that hinder or hinder business planning of innovative activities of enterprises. Modern economic conditions, both on a global and national scale, require the use of effective approaches to managing complex production and economic systems. The priority direction for the development of enterprises of various industries is the implementation of innovative activities. To achieve success in this area, companies change their approach to management, organizational structures, and business models. The dynamic development of the market for innovative products and services, as well as the growth of competition, necessitates the search for new methods to improve the efficiency of innovative production management. One of them is management based on a process-oriented approach, which is based on the allocation of business processes in the activity of an innovative and active enterprise and the creation of a management system that should ensure the growth of its management efficiency. This approach to managing a modern enterprise is an important factor in increasing its competitiveness and efficiency while achieving maximum resource savings and minimizing costs. Therefore, the issues of in-depth study of the process-oriented approach and business processes of the enterprise, their structural elements and the nature of interaction are of particular relevance. Based on the results of the analysis, conclusions are formulated that allow focusing on updating strategic management tools, the need for which is objectively updated both by the modern stage of conceptual change in innovative management, and by the formation of more complex business process management practices in the conditions of entering the market of innovative business models of urgent delivery, expanding the continuum of requirements for strategic management tools.

Keywords — *business process, innovation, production, strategic management.*

I. INTRODUCTION

The state of the Russian economy is currently affected by a number of negative factors, which include economic sanctions, the volatility of world energy prices, the reorientation of foreign economic activity to Asian states, the instability of the ruble exchange rate, and the partial loss of positions on world energy markets. These factors, as well as a

number of political events contributed to the exacerbation of problems both in individual sectors and throughout the country's economy. Key problems (lack of investment, low technical and technological level of production, low innovative activity) have become even more acute in the current conditions. The causes of these problems, as well as the general lag of the country's economy from the economies of developed countries, can be eliminated as a result of the implementation of an effective innovation policy. At the same time, it is planned to introduce not only technological, but also more managerial innovations. Attracting additional investment in the sectors of the national economy will become possible if investors are confident not only in the return of invested capital, but also in generating income that is maximum in comparison with other options for investing the same funds. Providing such guarantees to a potential investor is only possible for those enterprises that operate in conditions of predominantly non-price competition. Reforming the domestic economy is aimed at creating, maintaining and developing conditions for competition in various industries. [6] The creation of flexible organizational structures in the production and services sectors is possible as a result of the transition to process management, which is observed at some Russian enterprises at present.

The development of the innovative potential of industrial enterprises means the use of competitive advantages. Moreover, the existence of many options depends on the innovative activity of the enterprise. The application of its strengths and the strengthening of weaknesses is a priority in the formation of a breakthrough strategy for innovative technologies. Thus, the growth in the effectiveness of innovative activities, as a rule, depends, first of all, on purposeful and measured work to identify and implement opportunities to increase the innovative activity of enterprises [3].

The growth of innovative activity of a modern industrial enterprise directly depends on the use of "human capital" and its scientific knowledge, which are embodied in subsequent innovations. Moreover, the effectiveness of the stages of innovative activity largely depends on the creative activity of the performers.

Nowadays one of the main ways to increase the innovative activity of an enterprise is to improve the management system of operational business processes [4].

The relevance of the study is related to the current state of the market economy in Russia, which integrates with the latest scientific developments in the field of innovative technologies actively used by the commercial sector. In particular, both small and large businesses, introduces them at various levels, ranging from business process management and the operational cycle, ending with the basis of strategic planning and management.

This article aims to somewhat streamline the vision of the problem of managing innovative business processes of enterprises with the help of management science tools, in order to provide concrete methods for increasing the innovative activity of the enterprise that are justified from these positions.

II. MAIN PART

The formation and development of an innovative business process management system that will allow building the interconnection of all elements of the innovative process is based on its progressive development from the initial stage of mental modeling of an innovative concept to the implementation of the initial product, where the law of constant, continuous interaction with the control and management structure is in force.

The system for the management of innovative business processes represents a cyclical structural connection between business entities and can take the following form:

The direction of innovation is education that links the enterprise and consists of one or more groups of business processes.

Control actions – this is a structural and consistent implementation of control actions through activities to evaluate and inspect the process.

“Operation” – a function implemented by one employee of the enterprise (responsible employee) is not subject to control, since the main activity of the function is minimal [5].

Effective actions are actions in the established sequence and by a specific performer, leading to the receipt of a result, such as the conclusion of contracts, the receipt of a specific product or a specific oral agreement.

Aggregate actions – actions carried out in the prescribed sequence by employees of the enterprise with different skill levels to obtain a meaningful result.

Currently, there are many definitions of the concept of a business process. All of them describe the business process from various points of view. The analysis of the literature shows that they all have a significant bias in a certain direction, associated with the historical basis on which they built business processes.

Innovative business processes are a logically linked sequence of actions aimed at implementing an innovative idea

in order to obtain process or product innovation to achieve a positive effect.

It is an innovative business process that is not an action that is actually being implemented at the current moment in time, but this is just a representation of such actions. Therefore, the model may or may not be implemented [1].

The purpose of building business processes at the construction industry enterprises is the formation and development of innovative activities based on the introduction of innovations in the production process and achieving results in obtaining the final innovative product. The development of the enterprise by combining the tasks and ways to solve them using the main production competencies is possible only with the help of business processes. The management structure of innovative business processes serves as an advantage in increasing the efficiency of the investment process (reducing the duration, costs and improving the quality) due to the concentration in the hands of almost all organizational and managerial functions; direct economic interest of the enterprise in the positive financial results of the project; providing professional control over time and cost indicators; additional opportunities to reduce risks for the customer.

The construction of a management system for innovative business processes should take into account primarily the types of business processes involved in the structure of the general mechanism as separate supporting subsystems.

Innovative business processes have characteristics common to all types, which are based on both quantitative and qualitative parameters that determine the effectiveness of business processes (level of implementation of planned work, effectiveness of the result).

The main groups of balanced indicators:

1. The performance indicators of the process.
2. The readiness indicators of the product process.
3. Indicators of consumer process efficiency.

The theory of balanced indicators helps in as a set of standard indicators, classified by classes: financial indicators, indicators characterizing the internal business processes of the enterprise, indicators related to consumer perception of the enterprise and its products and services, as well as indicators characterizing the human resources component of the enterprise's policy. At the same time, the creators of the theory of balanced indicators associated the choice of specific indicators for a specific process exclusively with the experience and skill of senior managers [9].

This approach is not always acceptable in Russian conditions, since the top management of a domestic enterprise is often informed about the underlying components of the enterprise's business processes much worse than in more “transparent” American or Japanese companies. On the other hand, the creation of balanced indicators is often carried out by a linear manager who does not have a complete picture in his head, and senior management only accepts or rejects the proposed options. Thus, it may be wrong to give the manager a technique for selecting indicators [9].

The effectiveness of business processes consists in the comparability of costs required for their implementation with integrated performance indicators [7].

The system of managing innovative business processes is aimed at achieving the business goals of the enterprise, as well as at increasing the efficiency of its work, improving product quality through the use of a systematic approach to management, taking into account the proactive participation of staff.

In scientific research, mathematical models are widely introduced that depict a process or object using mathematical expressions and technical models. They reflect the essence of economic phenomena and processes. Assessing the impact of business processes on innovation is a multicriteria task and often unsolvable, in this regard, the authors consider it appropriate to systematize all assessment methods and highlight three areas of assessment: material and labor resources, management decisions [8].

The size of the formalized part in business processes is determined by the number of relationships. The number of connections during the decomposition of business processes increases exponentially. To estimate the change in the number of bonds, a logarithmic function is applicable. It is proposed to evaluate the ratio of the formalized to the non-formalized using the coefficient of organization of I. V. Prangishvili [2], defined as the ratio of negentropy to maximum entropy.

The indicator of structural organization:

$$R = 1 - \frac{E_f}{E_m} = 1 - \frac{\ln(S_{un})}{\ln(S_m)} \quad (1)$$

where R – is the coefficient of organization from the business process; E_m – the maximum possible entropy of the business process; E_f – real (actual) entropy of the business process; S_m – the maximum possible number of connections; S_{un} – the number of undefined states.

We estimate the maximum number of connections in business processes using the formula:

$$S_m = n^2 + nm - n \quad (2)$$

where n – is the number of functions; m – is the number of inputs and outputs.

Estimated number of undefined relationships:

$$S_{un} = S_m - S_n \quad (3)$$

where S_n – is the number of defined states in the functional model.

We study the changes in the indicator of structural organization in the business process management loop according to the levels of structural decomposition of the system model [4]. The business process management cycle

defines a chain of functions from the upper to the lower levels. Studies show that the indicator of structural organization decreases with an increase in the levels of business processes by several times. It is mainly about creating a relatively universal approach to the formation of integrated enterprise performance indicators and their use for enterprise management.

III. CONCLUSION

The result of the development and formation of a system for managing innovative business processes is the establishment of priority areas for the enterprise, the creation and production of a competitive innovative product.

Currently, innovative companies that want to increase their competitiveness and take a leading position in the market need constant reform and improvement of the operational business process management system, which is based on a detailed study of the existing operational business processes of the company, an in-depth performance analysis in accordance with strategic the goals of the company and the development of measures to improve them.

In the future, it is planned to study the business processes of the enterprise and the formation of assessments of structural organization for typical business processes of the enterprise in order to further reach the level of specific recommendations on the boundaries for the values of structural organization.

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