MANAGEMENT OF AN ENTERPRISE INNOVATIVE ACTIVITY

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ABSTRACT

The purpose of the study is to improve the management of innovative activities in an enterprise. The methodological basis of the research is the guidelines to identify the innovative potential, climate and activity of an enterprise. The relevance and novelty of the work is that the importance of national innovations is continuously growing, while the competent management of innovative processes primarily increases the efficiency of companies. Therefore, it is necessary to apply particular methodological approaches to improve the efficiency of innovation management. The paper reveals and systematizes the factors influencing the development of the innovation process management. The results of the research are the proposals and measures developed to improve the efficiency of innovative management in an enterprise, namely, the measures to increase the level of an enterprise competitiveness and adaptability to changing environmental conditions.

Keywords: Management of Innovative Activity, Innovative Climate, Innovative Potential, Innovative Activity.

INTRODUCTION

Innovative activity is an indicator of an enterprise movement towards the formation of competitive advantages, since it is the implementation of innovations under the conditions of the rapidly changing external world and the limited resources that determine the further corporate development (Balabanov, 2000). Innovation at the present stage is becoming one of the most important systemic factors of economic growth, increasing the competitiveness of domestic products and ensuring the national economic security (Karagiannis et al., 2017, Drosos et al., 2017). When studying corporate innovation activity, management is an integral part of that, as management becomes an increasingly important tool for enhancing the competitiveness of various economic entities, an effective source of their successful operations, increasing profitability and investment attractiveness and growing market attractiveness (Endovitskii & Gilyarovskaya, 2003).

The emphasis on competitiveness, innovation and efficiency is an important part of the current economic situation, as repeatedly pointed out in the Address by the President of the Russian Federation to the Federal Assembly of Russia. Even in the Message for 2001, Putin V.V. put the strategic task of transition to innovative development: "We are losing in the competition in the global market, more and more oriented towards innovation sectors, towards the new economy-the knowledge and technology economy". In recent years, the government has been activating the innovation policy: in the federal budget, an investment fund has been formed since 2006; the conditions have been created for combining the efforts of the state and the business,

encouraging investment and innovative activities via the tax legislation. The problems of management in a transition economy are studied by such authors as Avdasheva, Andrianov, Anosov, Apishev, Bovykin, Borodin, Burkov, Bykov, Gowner, Dolgopyatova, Zabelin, Ivanov & Ilyin.

Paying tribute to those scholars, it should be emphasized that their works are devoted to the fundamental problems of scientific and technological management. However, many applied issues still require theoretical solution or further improvement, especially in the context of the growing influence of new technologies on the competitiveness of enterprises, increasing the role of intangible assets in economic growth and expanded investment in the intellectual capital of economic entities (Lapin, 2010).

In most works, the innovative management is considered within the traditional interpretation, in which it is directed primarily at material objects. Meantime, the management as such and the way of production engineering are increasingly becoming an object of innovations (Ermasov, 2006). The success of financial and economic operations of Russian enterprises will ultimately be determined by the level of development of the innovative management.

The decisive condition for effective innovative management is a well-established system of performance indicators for the development of timely, informed decisions at various levels of the management hierarchy, enabling to identify the effectiveness of the measures taken and that of innovative management in general. It seems expedient to make decisions taking into account the available technological capabilities of the enterprise and the possibility of implementing innovative products on the market. Therefore, in the authors' opinion, when choosing a way of assessing the opportunities of innovative activity, identifying the direction of innovative development in the strategic plan, it is expedient to base on the distinctive feature of the innovative potential, manifested in the synergetic effect due to internal interactions of the system's elements. Currently, there is no universal methodology for analyzing and evaluating the innovative potential of an enterprise and existing developments are usually based primarily on expert assessments of a factor, which makes their application more difficult and does not allow to objectively assessing the prospects for innovative development. In the authors' opinion, it is advisable to use complex methods to assess the effectiveness of innovation. Such an assessment, therefore, should employ the principle of continuity, the availability of stable indicators and allow to adequately assessing the state and readiness for innovative changes, to objectively predict factors and prospects for innovative development to form objective recommendations for the development of innovation strategy and mechanisms for its implementation. To fulfill the tasks of innovative management, it is required to provide its objective, reliable, operative, structured information base, including qualitative and quantitative characteristics of the management system, encompassing all interconnected areas that directly or indirectly affect the effectiveness of innovation activity, including in each group of factors the parameters of external and internal environment that pervades various levels of the management hierarchy. Taking into account the peculiarity of complex methods for assessing the effectiveness of innovation activity-the relationship between the goal and the end result of the activity-to achieve maximum efficiency, the authors consider it prudent to use the principles of program-based management based on a set of systematically organized goals and objectives to solve the problem and activities to achieve the goals.

The authors considered it necessary to pay more close attention to the development of an information base for the adoption of effective, justified solutions that enhance the efficiency of

the innovation sphere. The paper contains sections: Introduction, Methodology, Results, Discussion and Conclusion.

METHODS

To consider the innovative state of an organization, it is necessary to consider the innovative climate, the innovative potential and the activity of this entity.

The evaluation and analysis of the innovative management of enterprises were carried out according to the following classical algorithm, which is presented in Figure 1 (Plenkina, 2010).

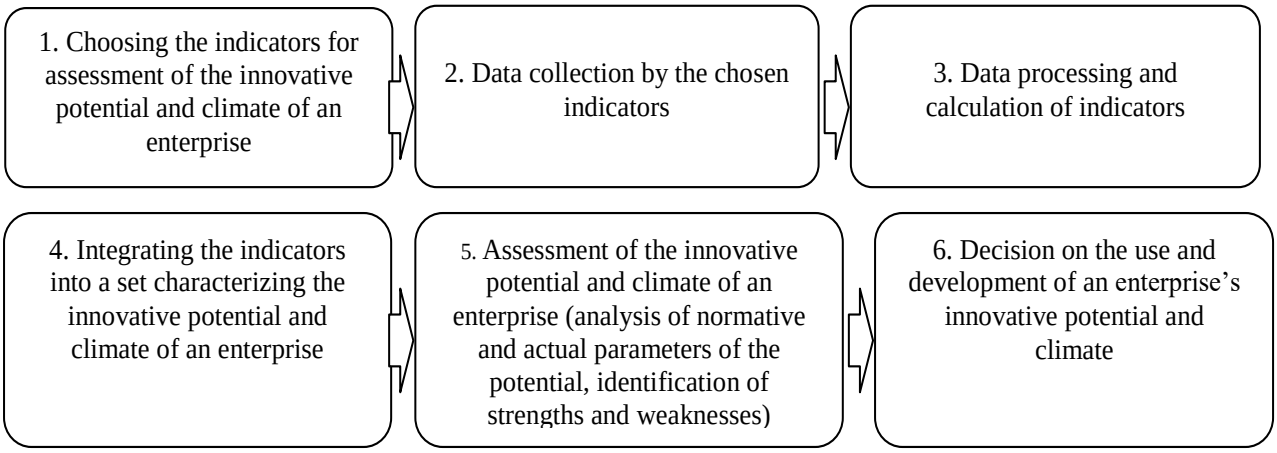

Figure 1
ALGORITHM TO ASSESS THE INNOVATIVE POTENTIAL AND CLIMATE IN AN ENTERPRISE

A significant contribution to the theory and methodology of innovative potential development within the framework of the regional management was made by Russian scholars Agarkov, Kuznetsova, Gryaznova & Kruglov, who developed the original methodology to identify the innovative state of companies (2010). This methodology is proposed in the book "Innovative Management and State Innovation Policy". The essence of the methodology is to assess the innovation potential and climate through an expert assessment. The following elements of the internal environment of the organization that form the production and economic system (potential) are evaluated: the product (design) unit, the functional unit, the resource unit, the organizational unit and the control unit (Popov, 2010).

It is necessary to understand that for successful management of the innovation system it is important to provide a range of indicators and all that should be linked to the long-term goals of the enterprise. These features of the management of innovation processes are characteristic of large companies that are focused on long-term development. Therefore, indicators have been selected that can be influenced via management (Table 1).

Table 1
RELATIONSHIP OF THE ELEMENTS OF MANAGEMENT WITH THE MAIN INDICATORS OF THE ENTERPRISE

Management impact element	Indicators characterizing the management impact	Desired value	Actual value, 2016
1	2	3	4
1. Competitive strength	-sales margin	≥ 12.5%	12.5%
	-debt ratio	≥ 0.9	0.9
	-production rate	≥ 2,031.8 thousand rubles/person	2,031.8 thousand rubles/person
	-fixed assets workability ratio	≥ 0.89	0.84
	-fixed assets depreciation ratio	<0.1	0.2
	-investment budget development	100%	90%
2. Efficiency of using production resources	-return on assets	≥ 9.9	9.9
	-sales margin	≥ 12.5%	12.5%
	-gross profit	≥ 571,353.9 thousand rubles	571,353.9 thousand rubles
	-sales revenue	≥ 3,959,164 thousand rubles	3,959,164 thousand rubles
3. Adaptivity to the changing environment	-average age of equipment	Under 5 years	5-10 years
	-average age of soft hardware	Under 3 years	3-5 years
	-portion of competent staff	100%	89%
	-development of budget in connection with professional development	100%	95%
4. Creating bases for long-term stability	-maintaining quality and service	+	+
	-basic rights guaranteed to staff	+	+
	-long-term financial plan available	+	+
	-long-term forecast of development of economy, science and technologies	+	+

Most indicators do not have generally accepted ideal value. This is because the indicators are highly dependent on the specific features of a particular sector. For example, in asset-intensive sectors, the share of fixed assets in the assets of the enterprise is large, so the ratio of return on assets will be lower. But if this indicator is considered in the dynamics, the growth of the coefficient indicates an increase in the efficiency of the use of equipment (Abdikeev & Kitova, 2011).

Therefore, the desired values of indicators were identified by the best values over the analyzed period and were compared with the corporate indicators for the current year.

Based on the results of Table 2, it is clear that it is necessary to improve the competitiveness of the enterprise through improving the workforce productivity, the workability ratio of fixed assets, the development of the investment budget, the improvement of the adaptability to the changing environment by updating equipment, software and hardware and also through the full development of the budget for professional training.

RESULTS

Based on the work done in the project enterprise, the following shortcomings were identified:

1. Moral wears of fixed productive assets.
2. Incomplete updating of software and hardware.
3. Incomplete development of the investment program.
4. Inconsistency of enterprise operations with customers.
5. Insufficient level of qualified staff.

These problems allowed working out a set of measures to develop and improve the management of the enterprise innovative activities.

When implementing that set of measures, the following changes in the positions of insufficiently perfect indicators of units in Table 2 were predicted.

Table 2
PROJECTED CHANGES IN INDICATORS IN THE COURSE OF MANAGERIAL IMPACT ON INDIVIDUAL ELEMENTS

Managerial impact elements	Measures	2016 (Fact)	2018 (Forecast)	Relative change, %
Competitive strength	-sales margin, %	12.5	13.5	8
	-production rate, thousand rubles/person	2,032	2,141	5.3
	-fixed assets workability ratio	0.84	0.94	11
	-fixed assets depreciation ratio	0.2	0.1	0.5
	-investment budget development, %	90	100	11
Efficiency of using production resources	-gross profit, thousand rubles	5,71,354	5,99,922	5
	-sales revenue, thousand rubles	3,959,164	4,011,232	1.2
Adaptively to the changing environment	-average age of soft hardware, years	3-5	Under 3	-
	-portion of competent staff, %	89	98	10
	-development of budget in connection with professional development, %	95	100	5

Table 3
CHANGE OF INDICATORS OF INNOVATIVE POTENTIAL AFTER THE IMPLEMENTATION OF A SET OF MEASURES

Units' components	2016	2018 (project)	Absolute change (+/-)
1	2	3	4
Product unit			
Works completed	4.4	4.7	0.3
Production profitability	4.6	4.8	0.2
Market share	4.4	4.7	0.3
Resource unit			
Level of endowment with materials and equipment	4.6	4.8	0.2
Level of renewal of materials and equipment	4.4	4.8	0.4
Staff qualification	4.4	4.7	0.3
Use of the present IT	4.4	4.8	0.4
Organizational unit			
Progressive technologies used	4.4	4.8	0.4

The next step is to make a forecast of the enterprise innovation profile change. According to this forecast, it can be seen that the proposed activities contributed to the improvement and maintenance of components of innovative capacity units (Table 3).

The proposed management decisions will increase the assessment of the components of the innovative potential for several positions (Figure 2).

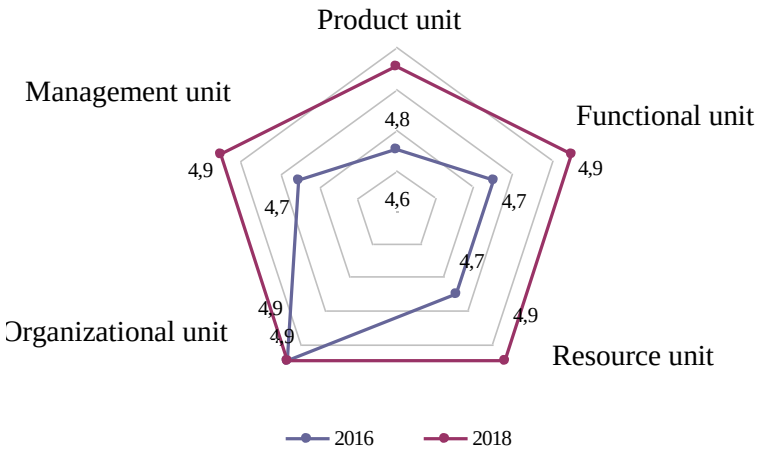

Figure 2
CHANGE OF THE INNOVATIVE POTENTIAL COMPONENTS

The management impact on competitiveness and the influence on adaptability to changing conditions of the environment in aggregate resulted in an increase in the efficiency of the use of productive resources (Kosenkova, 2010). The investment budget and the budget for vocational training began to be fully developed. This made it possible to completely update the software and hardware, to increase the share of competent staff, which led to an increase in labor productivity and profitability of sales. The indicators of gross profit and sales increased.

Improving the management of innovative activities of the enterprise will ensure the improvement of the innovative level of the organization and its economic performance (Laptev, 2011).

DISCUSSION

Theoretical and methodological problems of managing the innovative activity of an enterprise on the basis of improving the innovation state are of great importance, their solution being relevant.

An important theoretical construction necessary for further research is the consideration of innovative potential as a prerequisite and one of the most important conditions for creating effective management of this activity (Krylov et al., 2003). This is because the development of the innovative activity of the enterprise assumes the existence of certain conditions and such an innovative potential that can generate high innovative activity aimed at creating new organizational and managerial structures, technologies, goods and services in the long-term run. The problem of the formation of an effective system for managing the innovative activity of the enterprise, the mechanism for its activation capable of combining, reproducing and using product and process innovations to increase the pace of economic development, acquires special

significance in the modern economy (Saifullina, 2010; Chalikias et al., 2014; Arabatzis et al., 2015). There are different views on the structure of indicators that characterize the innovative potential of the enterprise. Meantime, authors use both well-known indicators characterizing the economic activity of an entity and specific ones. The set and number of indicators depend also on the number and depth of analysis of the components of the innovative potential (Shlyakhto, 2009).

There are different approaches to identify the innovative potential of the enterprise. The methodology of Agarkov, Kuznetsova & Gryaznova is more expedient to apply here, because it specifies the resource and the performance components. The resource component includes material and technical, financial, human resources and the performance one-the results of production and innovative activities of the enterprise. This allows covering a wider range of indicators, in contrast to the methodologies of such authors as Abramov, Trifilov, Karapeychik, Dokunin & Tumina (2009). The evaluation of the resource and performance components of the innovative potential and climate units is carried out on a 5-point scale. The results of the comprehensive assessment made it possible to identify the indicator of the innovative position and activity of the organization. The obtained values determined the level of the enterprise ability to carry out innovative activities. Within the enterprise, such an assessment gives an idea of the strengths and weaknesses of the innovation potential and allows identifying possible ways to increase it and the reserves for improving the managerial aspect.

For successful management of innovative activities, it is important to provide a range of indicators that will be linked to the long-term objectives of the enterprise (Fatkhutdinov, 2010). The long-term objectives include: maintaining competitiveness, ensuring the efficient use of production resources, increasing the degree of adaptability of the enterprise to the changing conditions of the external environment and creating prerequisites for long-term stability. Of the wide range of economic and financial indicators characterizing the activity of the enterprise, those which most optimally and accurately describe innovative processes and can be used by the company management were identified (Pervushin, 2003). For the indicators selected, the desired values were put.

The main feature of innovation management is the complexity and system interaction of all types of the enterprise activities that have scientific, financial, organizational, investment, technological, production and other content, which ultimately leads to the commercialization of innovations (Pyastolov, 2011). Therefore, the principles of systematization, integration and coordination of different types of activities, aimed at implementing the innovation strategy, are the core of innovation management.

CONCLUSION

The limitations of existing methodological approaches to assess the effectiveness of innovative activities, which do not allow to objectively prioritizing the directions of innovative development, grant a privilege of developing research on the formation of an information and methodological base that includes qualitative and quantitative characteristics (indicators) of the system in the context of its components. In each of the selected groups, it is necessary to consider the parameters of the external and internal environment. Such an information base allows for selection of priority goals and objectives, as well as the formation of mechanisms for their achievement at various levels of the management system, ensures continuous monitoring of the state of innovation potential. In accordance with the selected ideas, the authors consider it expedient to use complex methods applying the principles of program-target management for

assessing the effectiveness of the innovative activity of a project enterprise. Here one is dealing with a facet of the innovation process, manifested in the diffusion of innovations, implying the spread of the mastered innovation, being applied in new places and conditions. Since most of the developed innovative capacity assessment procedures are based on qualitative parameters, a number of quantitative indicators by selected elements of the control action were chosen in the work.

Based on the study of theoretical and methodological issues in innovation management, the enterprise may work out a number of steps that can be used in the practice of the sector enterprises to optimize innovation. This will increase the value of components of the innovative potential units and, ultimately, will contribute to increasing the company competitiveness, the efficient use of production resources, improving the enterprise adaptability to changing environmental conditions.

The use of comprehensive assessment methods based on the principles of program-target management is possible in any industry. Their application is not limited to strict regulatory conditions. The corporate management has the opportunity to build its own combination of the system of evaluated directions, based on the targets for innovative development to ensure competitiveness, increase stability and flexibility in relation to changes in the external environment. As the directions of further research, the authors see the expansion of indicators assessing the effectiveness of innovation, complementing the available parameters of the external environment, as well as detailing indicators by management levels. The need to identify the external environment is caused by the importance of identifying the factors surrounding the system in question, interacting with it, affecting it and, in turn, changing under its influence. Here the difficulty is seen in the fact that the external environment is changeable. Such information base helps to increase the validity of management decisions in the issues of innovation activity.

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