

STRATEGIC MANAGEMENT OF INDUSTRIAL ENTERPRISE INNOVATION POTENTIAL DEVELOPMENT

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ABSTRACT

It is proved that innovation activity is inseparably linked to the economic component and is the main source of competitive advantage of an enterprise. The author's methodology of evaluation of the development of innovation potential built on the basis of the index method based on financial statements is proposed. The innovation development of an industrial enterprise is carried out on the basis of the proposed methodology, and the system of indicators for the integrated evaluation of the innovation development of an enterprise is created. The ways to increase the development of innovation potential of an enterprise are considered, which allowed forming appropriate management measures. It is proved that the implementation of a CRM system will become the basis of organizational innovation development of the company. Traditional CRM systems need to be integrated with information systems with strategic management of innovation projects. For companies creating high-tech products such systems is a major driver of competitiveness in global markets.

Keywords: Innovation Potential, CRM System, Strategic Development Management, Product Competitiveness, Innovation Activity.

JEL Classifications: M5, Q2

INTRODUCTION

In the conditions of changing external and internal environment, a key factor of the competitiveness of industrial enterprises is their innovation activity, which is defined as the continuous support of labour productivity at higher level than that of competitors using a continuous process of acquisition and implementation of innovations and achieving the necessary level of innovation development.

At the same time, just the maximization of the innovation component can be considered a condition for the sustainable development of an enterprise in the current conditions, which requires business entities to pay great attention to managing their own innovation potential. Innovation potential comprehensively characterizes the ability of any enterprise to carry out innovative activity. That is why managing innovation potential is one of the most important tasks for any enterprise, because the effectiveness of market activity in the conditions of fierce

competition depends first of all on the ability to increase and actively use organizational, technical, marketing and other innovation opportunities that make up innovative potential.

The timeliness of the subject is that, in a changing global and internal environment, a key factor of the competitiveness of industrial enterprises is the effective management of its innovation development based on monitoring the level of innovation of the enterprise, target quantitative and qualitative indicators.

The purpose of the article is to develop, substantiate and analyze the proposed methods of providing organizational and economic support for innovation development.

REVIEW OF PREVIOUS STUDIES

Organizational and economic support for innovation development of an enterprise depends on the level of corporate culture, the element of which is the presence of an environment promoting innovation development, which in turn implies: generation of new ideas, improvement of staff skills; management openness to new ideas; study of competitors, protection of competitive advantages, protection of objects of intellectual property (Witkowski, 2017; Jin et al., 2018).

In order to develop an effective strategy for managing the innovation potential of an enterprise, it is necessary to use the system of indicators, which characterize the state and level of use of the components of innovation potential in the most detail (Calabrese & Costa, 2015; Liao, 2018).

The system of indicators, which is proposed for a comprehensive evaluation of an enterprise innovation potential, must meet the following requirements: include indicators, which characterize the innovation potential across all components; enable comparison of indicators used for analysis in different enterprises; be directed to the performance of current and prospective tasks; must be consistent with existing reporting in the enterprise; cost of collecting and processing information according to the selected system of indicators must be minimal (Gomes & Wojahn, 2017).

By analyzing the performance of an enterprise this way you can get an integral indicator allowing to evaluate the level of innovation potential of an enterprise, its ability to carry out certain innovations or the need to develop a component of an innovation in an enterprise (Lo & Yang, 2020; Planko et al., 2016; Prajogo, 2016).

Effective innovation potential management is a condition for ensuring a high level of competitiveness (Liao, 2018; Vahdani et al., 2020).

Therefore, having knowledge of innovation potential evaluation methods should be considered as one of the key competences of a modern enterprise focused on innovation and intensive development (Piperopoulos et al., 2018).

METHODOLOGY

The following general scientific and specific research methods were used in the work, namely: analysis – when assessing the level of innovation development of the enterprise; system approach – when determining the components of innovation development of the enterprise and comparative analysis of texts of scientific works.

In our view, the method of integral evaluation of innovation potential is the most appropriate for practical application in analytical activity, because it combines the selected indicators of evaluation into one integrated indicator. Each of the selected indicators

(components of the integral indicator of innovation potential) can also be calculated as an integral indicator. Such approach ensures recording the maximum number of factors, which determine the value of innovation potential of the enterprise.

The following are the advantages of the integral method for enterprises: combines the influence of a large number of factors, both qualitative and quantitative; enables to rank enterprises by the level of innovation potential or to evaluate the dynamics of the enterprise development by the dynamics of this indicator; involves the use of modeling elements, which provides a sufficiently high accuracy and reliability of the obtained results.

The proposed integral method has the following disadvantages: use of the method is associated with the difficulties in establishing the ratio of the various constituent elements, which are included in the calculation of the integral indicator; involves calculating the value of each constituent element of the innovation potential.

RESULTS AND DISCUSSIONS

Evaluation of the innovation potential of the enterprise depends on the evaluation of the internal environment of the organization. Depending on the structuring of the constituent elements of the enterprise and the recognition of the priority of influence on innovative processes in the organization, different authors distinguish different blocks for analyzing and evaluating the innovation potential of the organization.

Currently, a wide range of indicators are used to evaluate the innovation potential, reflecting mainly the material and technical condition of the enterprise (indicators of deterioration of fixed assets, capital intensity and capital/labour ratio, material intensity and material productivity), the assessment of the scientific potential of the enterprise (number of patents and licenses, the value of costs for innovations and their share in the total value of production costs), as well as the efficiency of innovations (indicators of net present value, profitability index, payback period) and quality composition of staff potential.

However, the disadvantage of using only these indicators to assess innovation potential is that they are borrowed from techniques that characterize not innovations as such but related activities: scientific and technical, production and technological, marketing, as well as personnel and logistics potential, etc. This led to the fact that innovation potential was developed largely spontaneously, its structure was characterized by drawbacks.

Due to the inability to reliably assess the innovation potential, the nature and extent of its impact on the development of the enterprise, foreign exports of products decreased, which negatively affected the development of the national economy.

We propose to perform the integral estimation of securing innovation development using the formula 1:

$$I_D = \sqrt{a_1 \times I_c^2 + a_2 \times I_p^2} \quad (1)$$

Where I_D – level of development of the enterprise, unit fraction; I_C – level of competitiveness of the enterprise, unit fraction; I_p – level of potential of the enterprise, unit fraction; a_1, a_2 — weighting factors that characterize the importance of competitiveness and potential, respectively.

The levels of competitiveness and potential of the enterprise vary from 0 to 1. In this

regard, the minimum possible level of development of the enterprise is zero, and the maximum possible level is one. Depending on the specifics of the market of goods (services) in which the enterprise is carrying out its activities, the coefficients a_1, a_2 may change.

The proposed assessment of the level of development takes into account the whole range of external and internal factors that influence the development of the enterprise.

Since the level of competitiveness of each enterprise is different, instead of using the proposed coefficient, we will evaluate the competitiveness, and instead of the potential, we will calculate the innovation potential. We propose to use the method of determining the competitiveness of an enterprise based on an assessment of the competitiveness of its products. This method is based on the assumption that the assessment of competitiveness of an enterprise can be carried out through the analysis and evaluation of the main factors of competitiveness of its products.

Accordingly, the calculation of the innovation potential of the enterprise is based on the formula 2:

$$I_p = \frac{\sum_{i=1}^n K_i \times P_i}{\sum_{i=1}^n P_i} \quad (2)$$

Where K_i – numerical value of the criterion ‘i’; P_i – weight factor of the corresponding criterion; n – number of evaluation criteria.

Using the previously established ratios of quantitative and qualitative values of the criteria, we can consider the innovation potential of the enterprise as “high”, if its estimated value is I_p in the range of 8-10, as “average”, I_p if it is in the range of 4-7,9, and as “low” at $I_p < 4$.

The calculation of the competitiveness factor of enterprise products is shown in Table 1. Thus, knowing the competitiveness of products, we can calculate the competitiveness of the enterprise, as noted earlier.

Product group	Assessment of the technical component (in the range from 1 to 4)	Assessment of the cost component (in the range from 1 to 4)	Product competitiveness
Pumps	2	3	0.66
Technological equipment	4	1	4
Packaging equipment	3	2	1.5
Spare parts	1	4	0.25

Note: Author's calculations

The results of the calculations are shown in Table 2. Thus, we find which of the product categories of the enterprise is the least competitive. The second component of the evaluation of innovation development potential is the calculation of innovation potential.

The assessment is carried out by means of a comprehensive analysis of the enterprise using fifteen indicators that reflect the real state of development of the enterprise. Evaluation is

carried out by expert method; each indicator is rated on a scale from 0 to 10.

Product group	Product competitiveness	The share of products in total sales	Enterprise competitiveness
Pumps	0.66	0.13	$K = \frac{\sum (0,13 \times 0,66 + 0,41 \times 4 + 0,1 \times 1,5 + 0,36 \times 0,25)}{16} = \frac{10,87}{16} = 0,68$
Technological equipment	4	0.41	
Packaging equipment	1.5	0.10	
Spare parts	0.25	0.36	

Note: Author's calculations

Item	Indicator name	Indicator weight P_i	Criterion quantitative value (0-10) K_i
a) Organizational and management potential of the enterprise			
1	Availability and characteristics of units of analysis, marketing, forecasting, strategic planning, etc.	6	6
b) Human resources of the enterprise			
2	Level of education and qualification of senior managers	9	9
3	Level of education and qualification of middle managers (heads of departments)	7	9
4	Average age of employees in main production unit in scientific and technological sector in management	3 4 5	6 6 7
5	Share of personnel training costs in general production costs	5	2
c) Production and scientific-technical potential			
6	Age structure of primary equipment	6	9
7	Certification of production	10	8
8	Availability on the balance sheet and intellectual property utilization rates	5	7
9	Level of production technologies	8	6
10	Characteristics of information technologies used (in design, development, etc.)	8	9
d) Market potential of the enterprise			
11	Structure of product consumers	8	6
12	Availability and characteristics of consumer systems for sales, service and operation of products	9	8
14	Participation in domestic and international exhibitions, fairs, competitions	8	9
15	Advertising activity indicators (nomenclature of promotional products, share of advertising costs in general production costs)	6	6

Note: Author's calculations

We will analyze the enterprise by organizational-managerial, production and market indicators, the results of the evaluation of the innovation potential of the enterprise will be presented in Table 3.

Having estimated all fifteen indicators, we can calculate the innovation potential of the enterprise using the formula 2. Its value is 7.686. In our case the level of innovation potential of the enterprise is average.

And the last step of the methodology is to calculate the level of development of enterprises using the formula (3):

$$I_D = \sqrt{0,58 \times 0,68^2 + 0,42 \times 0,7686^2} = 0,718$$

So, since the level of development can take values in the range from 0 to 1, we can state that the private company "Steiner" has a medium level of innovation development; hence, it would be advisable to propose measures to improve this indicator.

To address these issues and improve the innovation development indicators of the company, a number of measures need to be taken (Table 4).

Problems identified during the analysis of the company that need to be solved	Measures to solve the problem
1. Low share of personnel training costs.	1. To develop a program and plan for financing training activities.
2. Insufficient number of qualified personnel, high workload of existing specialists.	2. To develop and implement CRM – a system of workload monitoring and active search for new employees.
3. Low competitiveness of such product groups as spare parts and pumping equipment.	3. To introduce a new type of products, which will lead to an increase in demand for spare parts?
4. Consumer market is limited by the number of large manufacturing companies.	4. To find and occupy a vacant niche in the market to increase the number of consumers.
5. Comparatively low share of costs for innovations.	5. To develop the program of financing of innovations.

Therefore, as the basis for further innovation development of the company, we can consider the measures for the introduction of a new product, which will improve economic indicators, the development of a plan for financing of innovations and the introduction of a CRM system, which will become the basis of organizational innovation development of the company. So, the proposed measures are relevant for the company and will have a positive influence on a significant number of performance indicators. As regards the innovation development of the company, we will consider in more detail two of the proposed methods: implementation of a CRM system and launching a new product.

RECOMMENDATIONS

Customer Relationship Management (CRM) is an approach that improves communication with potential and existing customers. Based on customer information collected through a CRM type tool, you can make more informed decisions about the proposals, notifications, and used sales channels. CRM makes it possible for you to store data, better plan and organize your work, and strengthen control over your company. It helps to save time associated with performing repetitive actions, improve communication in the organization, customer relationships and financial indicators of the company, which is why it is advisable to consider the implementation of CRM as one of the ways to improve the operation of an enterprise.

Having compared the main CRM systems, we can conclude that their prices and characteristics vary greatly depending on the functionality required for the enterprise to work. There are a large number of integrators in the market, so if you have a clear understanding of functions CRM should have, it will be easy for you to find a program that will meet in full the needs of your company.

CONCLUSIONS

Innovation potential should be considered as a complex and multifactorial phenomenon in the development of the enterprise, ensuring its competitiveness. In this regard, it is important to further improve theoretical and methodological approaches to assessing the innovation potential of enterprises.

Thus, the system of estimation of indicators of the innovation potential of a processing enterprise is an integral set of available and hidden resources, reserves, opportunities, which can be revealed in the conditions of interaction and interdependence of balanced subsystems and elements. The methodology of evaluation of the innovation potential of a processing enterprise should be practical, flexible, based on an accessible mathematical apparatus and consistent with the current development of the innovation activity of an enterprise.

There is also high competition in the industry. However, a high level of competition has a positive impact on the enterprise, because it forces the company to innovate and constantly develop. Most of the enterprises in the machine-building industry are innovative, but the share of realized innovative products decreases annually, which indicates that most of the innovations implemented are not productive.

You can draw a conclusion from the results of the calculations that the enterprise has an average level of innovation activity, which is closer to a high level. For most indicators, "Steiner" is between an average and a high level, so these indicators can and should be improved since all prerequisites are in place. Thus, a comprehensive analysis of the activity of the enterprise allowed us to identify the main issues that should be taken into account when developing a plan for enterprise development. It is necessary to develop a number of recommendations and measures that will improve the company indicators and solve the problems analyzed. It is also important to justify the proposed measures, which will make it possible to determine the feasibility and correctness of the choice of development paths for the enterprise.

An important factor for a detailed analysis of innovation potential is the assessment of innovation activity of the enterprise. This indicator is a comprehensive one that can help you get a justified estimate. The advantage of the proposed method is the speed of its implementation, and the ability to identify those factors that need improvement.

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