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FORMATION OF EFFICIENCY FACTORS IN THE USE OF INTELLECTUAL PROPERTY

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Abstract: A study of methodical approaches to determining the effectiveness of the use of intellectual property at enterprises was conducted. The matrix of the formation of external and internal factors of influence on the performance indicators of intellectual property objects at enterprises is proposed.
Keywords: intellectual property objects, economic efficiency, matrix of factors

The recognition of intellectual property objects (IPR) as a significant asset of enterprises and organizations is characteristic of the modern stage of development of both the Ukrainian and foreign economies. At the same time, the use of the results of innovative and intellectual activity directly at the developing enterprise is the most important condition for business efficiency and, therefore, the object of management: planning, analysis, evaluation, etc. The relationship between science and production, the methodology of which was developed in our country during the Soviet Union, still today significantly affects the results of the innovative and intellectual activity of researchers, scientists, inventors, designers and technologists. On the basis of the obtained results of research and development, they create IP, which quite often do not find their consumer, as they do not meet the modern needs of production to a certain extent. As a result, the Patent Office of Ukraine issues certain protective documents (patents) for the obtained inventions, which do not arouse commercial interest among manufacturers [1-10]. The reason for this state of affairs, in our opinion, lies not only in a certain inconsistency between the results of innovative activity and the real needs of production. A large proportion of industrial enterprises within the model of socialist monopoly, which is still widely used in our country, are not interested in self-improvement. In particular, this applies to enterprises with a state form of ownership. They are practically not yet in competitive conditions, as the state protects their business from external competition with trade and tax barriers, and internal competition for many industries simply does not exist. As a result of such state monopoly policy, enterprises have no need to improve production, since there is no competition and no responsibility for the results of their activities. At the same time, the state tries to compensate the growing costs of such enterprises with the help of efficiently working enterprises and private business.

In our opinion, stimulating the creation and use of IP should be an extremely important factor in the economic strategy of competitive industries. A factor in increasing the efficiency of the creation and use of IPR objects is their involvement in economic circulation, which means the participation of IPR objects, expressed quantitatively in the form of value, as well as material assets, in the scientific and technical, production, commercial and market activities of industrial enterprises. At the same time, the very fact of accepting IPOs in accounting does not mean that they will be involved in the production process. Even the practical use of the results of innovative and intellectual activity in production does not guarantee obtaining consistently high material results. It is absolutely necessary for the enterprise to evaluate the effectiveness of the use of both legally protected IPRs and other results of innovative activities that are still at various stages of their creation. Many enterprises and scientific and technical organizations have unfinished developments; completed research works, but not legally protected; completed GDRs, which are currently characterized as unpromising. In order to avoid significant financial losses, we recommend that enterprises and scientific and technical organizations evaluate the effectiveness of the results of their innovative and intellectual activities, which are currently at different stages of their life cycle.

In practice, there are quite often cases when highly effective intellectual developments do not bring their developer the expected results due to insufficient innovative potential of the enterprise. An innovative project that is effective for one enterprise may not be effective for another. The factors of the current state and prospective development of the external environment and internal environment of each business entity are individual in nature and significantly affect the effectiveness of the use of IP. In order to eliminate such cases, we recommend the practical use of the matrix of external and internal evaluation of factors of the effectiveness of intellectual and innovative development.

The External Factor Assessment Matrix allows a developer to summarize and evaluate economic, social, cultural, demographic, environmental, political, governmental, legal, technological, and competitive information. The matrix shows whether the enterprise is able to effectively use existing opportunities along with minimizing external threats. Such actions will help the enterprise to formulate new strategies and policies based on the existing industry and market condition of the enterprise.

External factors are identified after a deep internal analysis of the external environment. Obviously, the external environment has both good and bad sides for the company. Therefore, we propose to divide external factors into two categories: opportunities and threats. Opportunities are chances that exist in the external environment, it depends on the enterprise whether it is ready to use the opportunities or they can be ignored by the enterprise due to the lack of necessary resources. Threats are always a significant obstacle to the effective operation of an enterprise, the minimal absence of threats in the external environment opens up many potential opportunities for it. A large number of threats to the enterprise significantly worsens its competitive position in its field.

It is proposed to form a matrix of external evaluation factors of the effectiveness of the results of intellectual and innovative activity in five stages:

Stage 1. In the process of conducting an external audit, key external factors are determined. Usually, their number ranges from ten to twenty factors, including both opportunities and threats affecting the enterprise and its industry. Opportunities are identified first, followed by threats, which must be formulated as specifically as possible, using percentages, ratios and comparative numbers where possible.

Stage 2. For each factor, its weight of influence on the value of economic efficiency is determined from 0.0 (not important) to 1.0 (very important). The weight indicates the relative importance of this factor for the commercial success of the enterprise. Opportunities are often given more weight than threats, but threats can also be given a high weight if they are particularly serious or threatening. Appropriate weights can be determined by comparing successful and unsuccessful competitors or by discussing the factor and reaching group consensus. The sum of all the weights assigned to the factors must equal 1.0.

Stage 3. A score of 1 to 4 is assigned to each key external factor to indicate how effectively the firm's current strategies respond to that factor. A grade of "4" means a better answer, a grade of "3" means an above-average answer, a grade of "2" means an average answer, and a grade of "1" means a negative answer. The respective ratings are based on the effectiveness of the company's strategies. Thus, the third-stage ratings are based on enterprise data, while the stage-2 weights are entirely industry-specific. It is important to note that both threats and opportunities can be rated 1, 2, 3 or 4.

Stage 4. The weighted score of each factor is determined by multiplying the weight of each factor by its rating.

Stage 5. The total weighted score for the enterprise is determined by adding up the weighted scores of each of the factors.

Regardless of the number of key opportunities and threats included in the external factor assessment matrix, the highest possible total weighted score for an enterprise is 4.0, and the lowest possible total weighted score is 1.0. The average (actual) total weighted score is between these estimates, i.e. it takes the value 1.0...4.0. A total weighted score of 4.0 indicates that the enterprise responds well to the existing opportunities and threats in its industry, that is, the existing strategies of the enterprise effectively use the existing opportunities and minimize the potential negative impact of external threats. The overall score of 1.0 indicates that the company's strategies practically do not use the available opportunities and do not avoid the action of external threats.

The matrix of internal assessment of factors of the effectiveness of intellectual and innovative development is very similar to the matrix of assessment of external factors. The main difference between a matrix of internal factors and a matrix of external factors is the type of factors that are included in the model. One of these matrices deals only with internal factors, while the other deals exclusively with external factors.

Regardless of how many factors are included in the internal factor scoring matrix, the total weighted score can range from the highest possible total weighted score of 4.0 to the lowest possible total weighted score of 1.0 with an average of 2.5. Total weighted scores significantly lower than 2.5 indicate weak internal business factors, while scores significantly higher than 2.5 indicate a strong internal R&D position. The internal factor assessment matrix should also contain 10 to 20 key factors. Note that the number of factors does not affect the range of total weighted scores, since the sum of factor weights is always equal to 1.0. If a key internal factor characterizes both a strength and a weakness, then that factor should be included twice in the internal factor assessment matrix, and a weight and rating should be assigned to each statement.

The matrix of internal evaluation of factors, together with the matrix of evaluation of external factors, is a tool for forming a strategy that can be used to evaluate the effectiveness of the enterprise's use of intellectual and innovative technology, taking into account the determined internal strengths and weaknesses of the enterprise.

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