Risks in the Management of Corporate Intellectual Potential

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Abstract: The article analyzes the risks that arise in the process of managing intellectual potential, including determining the prerequisites for their occurrence, as well as studying possible ways to prevent their manifestation and negative impact on the results of the corporation. As a result of the analysis, systematization, and generalization of scientific views, key factors of risk origin have been formulated in the context of intellectual potential management. Within the framework of the problematics, a possible classification of risks that has practical value in the management process has been substantiated - according to the stages of the reproduction of intellectual potential, the impact on the result over time and the structural elements of intellectual resources. Key risks associated with each structural element of intellectual potential have been identified and described. A number of measures have been proposed, the fulfillment of which will help reduce the level of influence of risks in the management of intellectual potential on the process of activity of economic entities. Detailing and improving such methods are the basis for further research in this direction.

Keywords: risk, intellectual potential, intellectual capital, intellectual resources, intellectual property, corporation, risk classification, risk management.

1. INTRODUCTION


Risk is the possibility of the occurrence of an event that is undesirable for a particular subject, out of the many variations of outcomes that can occur over a certain period of time, starting with a certain initial situation [5].

As Joel Bessil notes, most researchers explain how to determine the economic cost of risk. Therefore, there is a need to assess risks that are intangible and invisible, the need to make sure that risks are clearly monitored. Definitions of risks serve as a starting point for managing various risks [24].

Studies show that in view of possible undesirable results, it is necessary to distinguish risks from uncertainties, since the risk is a likely expected hazard. Uncertainty is an essential characteristic, while the risk is a form of manifestation of uncertainty. Not every uncertainty is expressed in the form of risk. The total uncertainty is not a risk. Such can be only partial uncertainty [6].

It is important to note that only after identifying the uncertainty of a possible hazard that is actually perceived, probabilistically estimated, for minimizing the consequences of which there are resources and opportunities, a risk appears as an economic category. Thus, uncertainty as a complex economic category associated with the implementation of economic and investment activities manifests itself in the form of risk.

In managing intellectual potential, the uncertainty factor plays a special role, causing the need to take into account the multivariance of the results of decisions made and the development of appropriate measures to eliminate negative consequences. Thus, there are objective prerequisites for studying and scientifically-theoretical substantiation of the problems of managing the intellectual potential of a corporation in the context of risk management.


The distinguishing common feature of all research is the confirmation of the significant practical role of intellectual potential in the process of creating sustainable competitive advantages and generating value added. Attempts have been made to substantiate the theoretical and methodological basis for identifying, evaluating and managing the intellectual potential of a corporation.

In the scientific literature, despite a significant background on this issue, there is still no unambiguous position on the interpretation of the essence of the category "intellectual potential", its structural elements, assessment methods, and effective management models. There is a need to generalize and improve the theoretical basis, and, especially, to refine the methodological foundations of managing intellectual potential for their further use by business entities.
II. THE MAIN OBJECTIVE

The main objective of the article is to analyze risks in the process of managing intellectual potential, to ascertain the prerequisites for their occurrence, as well as to study possible ways to prevent their manifestation and negative impact on the results of a corporation.

III. METHODS AND ORGANIZATION OF THE STUDY

The study used methods of qualitative and quantitative risk analysis in the management of the intellectual potential of the corporation. Systems analysis and synthesis based on the study of literature and scientific research in the field of risk management, risk sociology, management sociology, dedicated to the formation of an innovative corporation through the development of intellectual potential, risk classification, corporate risk management mechanisms have been conducted.

IV. THE RESULTS OF THE STUDY AND THEIR DISCUSSION

In general, the concept of potential (from the Latin potentia - strength) in the "Big Encyclopedic Dictionary" is understood as "sources, opportunities, means, stocks that can be used to solve any tasks, achieve certain goals" [3, p.188].

The intellectual potential of a corporation is its internal and external capabilities, consisting of the following: the human potential of a corporation, infrastructure potential of a corporation, "corporate memory", Research and Development work, innovative projects at the stage of development and implementation. All this ensures the formation of the intellectual capital of the corporation [14, p.73].

Intellectual capital is an aggregate of intellectual potential and intellectual property of a corporation, expressed in monetary form, which provide innovative development of the corporation with the aim of achieving economic efficiency and strengthening the competitive advantages of the corporation in the market [14, p.73].

Modern researchers propose to consider the intellectual capital of a corporation as one of the main factors of production along with physical (production) capital, financial capital, natural capital and human capital.

It is also proposed to understand that the human capital of a corporation provides for the physical availability of a labor resource and its physical activity. The intellectual capital of the corporation, consisting of the intellectual potential of the corporation, among other things, accumulates mental activity, potential intellectual abilities of employees, practical experience, connections and much more.

In addition, it is proposed to consider intellectual capital as a set of corporate intellectual property, i.e. that has already been materialized, developed and already brings benefits to the company, for example, in the form of profit, as well as the intellectual potential of the corporation, that is, what is still under development or that can potentially be used.

Thus, intellectual capital is essentially understood as the aggregate of non-material resources of a corporation that can be used to create value, which, in essence, is the intellectual potential of a corporation. At the same time, a part of the intellectual capital of a corporation belongs to it by right of ownership and has a monetary value, representing intangible assets in the form of intellectual property rights [10].

The process of development of intellectual potential can be represented as a system consisting of the following elements: training and professional development, the creation of a business career, the formation of staff reserve, staff rotation and the motivation of intellectual activity [1].

The factors of intellectual potential management include such criteria as: quality of management, innovations, consumer preferences in three main areas (coverage and strength of the distribution network, brand and quality of customer relationship management), quality of strategy, investor relations, development of creative potential (ability to attract and retain talented professionals, to encourage and stimulate creativity) [20].

The analysis of research and publications showed that the sustainable development of each company largely depends on its intellectual potential, which combines education, science, technology, all types of intellectual activity and becomes the main resource in the formation of intellectual capital and is the key to intensive development of the company. The set of resources that form the intellectual potential, and used by the corporation in its business activities, is an opportunity to occupy a leading position in the market for goods and services.

The essence of intellectual potential lies in the fact that it is a synthesis of a person’s creative abilities and capabilities in creating an innovative product. Based on the analysis of existing points of view of modern scientists, the following generalized definition of the concept of the intellectual potential of a corporation has been proposed - this is an aggregate of abilities of its employees, with the help of which an innovative development is created [7]. Under an aggregate of abilities of the employee his ability to create, accumulate and use intellectual resources is understood.

Intellectual resources are considered at the present stage of corporate management as a holistic and necessary economic system that should reflect the entire complex set of connections between the structural elements of the corporation’s intellectual field, and this implies the availability of trained personnel, sufficient market assets, and a strong intellectual property base that will play decisive role in the process of design, production, product sales and effective management of these processes [17].

Issues of formation and use of intellectual resources of the corporation are relevant in the field of risk management. The essence of the modern concept of corporate risk management is an increase in capitalization. If the shareholder value decreases, it means the impact of negative risks on the corporation’s activities [15]. Given these circumstances, it can be stated that in the process of creating value, on the one hand, tangible assets are involved, and on the other, intangible assets in the form of information and knowledge. It can also be argued that these forms of exchange are involved in creating the value of a corporation and thereby increase or decrease economic risks.
In the concept of "risk" following main elements can be identified, the interrelation of which constitutes its essence: the probability of obtaining the desired result; the probability of deviation from the selected goal; lack of confidence in achieving the goal; the possibility of material, economic, financial and other losses.

Any possibility of deviating the system of relationships between company managers, owners and other interested parties from a condition in which the system ensures the efficiency of the corporation’s activities and harmonizing the interests of owners, managers and other stakeholders can be considered a risk in the corporate governance system.

The classification of corporate governance risks can be presented according to two principles: a) according to the principle of the origin of the risks; b) according to the principle of risk subjectivity.

According to the first criterion - *according to the principle of the source of origin* - the risks of corporate governance are divided into external and internal. The external risk category covers all corporate governance risks that cannot be reduced within the company's internal management system. In other words, according to the classical classification of the theory of risk and uncertainty, these are systemic risks predetermined by macroeconomic and political factors emerging in each specific period in each specific environment. Internal risks of corporate governance include risks that can be reduced by internal management mechanisms in a company. They fall into the category of non-systemic risks.

According to the second principle of classification - *risk subjectivity* - corporate governance risks can be divided into three groups - those that are borne by shareholders, managers, and various categories of stakeholders. It is also important to distinguish between corporate governance risks for the majority and minority shareholders, for portfolio and strategic investors, for top and middle managers. Stakeholder groups — the company's personnel, their business partners, creditors, and others are even more subject to significant risks of corporate governance.

Correct classification of corporate governance risks is a prerequisite for an effective response to problems arising in the company's corporate governance system and is an essential condition for building an effective risk management system.

The initial cause of the occurrence of a high level of risk in the process of managing the intellectual potential of a corporation stems from the nature and specifics of intellectual resources. So, B. Lev focuses on such expense drivers [12, p.48]:

1. Incomplete exclusion and side effects (eng. partia lexclud ability and spillovers) cause the lack of clear property rights, that is, the loss of full control over the intellectual resource. The inability to completely exclude other participants from the results of intellectual potential reduces the cost for owners, causing insecurity and weakening the competitive position of the corporation (a clear example is a piracy on products recorded on electronic media - movies, songs, programs, etc.).

2. Internal risk (eng. inherent risk) of intellectual resources is caused by the peculiarities of investing in their development, since the most intensive funding occurs in the initial stages of the innovation process, when the general possibility of generating value is not yet known. Significant irreversible costs are a source of increased risk of their lack of capital in the future.

3. Difficulties of sale and purchase (eng. non trad ability) arise in connection with the intangible (imperceptible) form of intellectual resources, reducing their liquidity and creating problems in concluding agreements on free exchange in the market. The complexity of the implementation is also due to the attachment to the owner, often inseparable from him. In cases where separation is still possible, the asymmetry of information regarding the understanding of the potential for generating value creates problems in concluding contracts and forming a fair price for intellectual resources.

The presence of a high level of risk in the management of intellectual potential can also be justified in accordance with the basic postulates of the resource-oriented theory. According to this approach, cost is created through competitive advantages, which are formed on the basis of the resources of the corporation. In turn, in order to be a source of sustainable competitive advantage, certain attributes must be inherent in resources: value, rarity, inability to copy, involvement in organizational processes [23]. If one of the characteristics is lost, its ability to create value decreases.

Consider the causes of risks associated with a decrease in the level of competitiveness due to the loss of a key characteristic.

1. The value of the resource lies in its ability to be applied in a strategy to improve the effectiveness and efficiency of the corporation. For the majority of intellectual resources, there is a significant difficulty in the implementation of adequate assessment, which leads to incorrect conclusions regarding their impact on economic activity. The result of inaccurate value determination may be the risks of insufficient investment in important for the corporation resources and over expenditures in such that do not create significant added value. Thus, when developing a cost-saving strategy, corporations most often begin by reducing the cost of personnel training, reducing the value of intellectual human potential in the long run and increasing the risks of losing sustainable competitive advantages.

2. Rarity is the impossibility of using a resource by other organizations to obtain benefits. The intellectual resource is rare until the number of companies owns it, less than the number necessary to form a competitive market. The risk arises when a corporation fails to retain an intellectual resource exclusively within the framework of its activities (for example, through violation of intellectual property rights).

3. The absence of an intangible form of intellectual resources simplifies the possibility of copying them by other organizations. As a result of the disclosure of trade secrets, features of technology, standards, and procedures, other organizations have the opportunity to reproduce intellectual resources in their own activities. However, reducing the risk of copying intellectual resources is provided by the unique conditions for their creation and development in a particular corporation, as well as the difficulty of establishing causal relationships with competitive advantages and the formation of a social complex.
4. Risks in the management of intellectual potential may arise from the incomplete inclusion of intellectual resources in the organizational processes of a corporation due to the complexity of their full identification and evaluation.

The rationale for the essential fullness of intellectual resources and the specifics of their use in the activities of the corporation give a generalized understanding of the possible occurrence of risks in the management of intellectual potential (Fig. 1).

From the point of view of practical significance, in our opinion, the following classification signs of risks in managing intellectual potential can be distinguished (Fig. 2):

- stages of reproduction;
- possible impact on the result in time;
- structural elements of intellectual resources.

The stages of reproduction of intellectual potential are characterized by different goals and mechanisms of management, which causes the occurrence of differentiated typical risks in each link of this process.

The risks of the formation of a portfolio of intellectual resources are associated with the possible imbalance of its structure, as well as with a low level of potential of both the components themselves and their combination. At the stage of using intellectual potential, there may be risks of the incomplete release of opportunities or the presence of higher costs than the result obtained.

The risks of expanding the resource base and capacity building are associated with the unsuccessful selection of alternative options for changing the existing portfolio that will not bring the expected future benefits, excessive financing in resources with little potential, mismatch of the direction of development of intellectual potential and changes in market conditions.

Fig. 1. Risk occurrence factors in the management of intellectual potential

Fig. 2. Classification of risks in the management of intellectual potential

Risks of intellectual potential can create a wide impact on the activities of a corporation, stretched in a time continuum. The loss of a sustainable competitive advantage manifests itself as a future performance effect, causing a gradual loss of position in the target market and a reduction in input cash flows. The risk of losing direct cash flow due to the lack of income from intellectual property has impact in current period. Finally, previously invested funds in the development of intellectual potential may not be reimbursed (it does not pay off), that is, the influence vector is directed to the results of previous periods.

The most common is the division of intellectual potential into human, structural, and relationship potential [16, 28].

Accordingly, characteristic risks may arise in each of the elemental groups [22].

The human intellectual potential covers the capabilities of all personnel working in a corporation, its skills, and experience, the use of which in the course of activity creates an additional, above-average market, product. The management of this group should be focused on elements with a high level of potential, namely: the distribution in the corporation of a set of key competencies, education, and strengthening of specific management skills, and, most importantly, the creation and improvement of new knowledge - sources of long-term future value. Key risks associated with human potential management are as follows: high turnover of key managers and staff; inadequate position and skill level; insufficient validity of creating a culture that perceives new and appreciates learning; high resistance to change, learning inefficiency;
training specialists for competitors (investment in training will bring results for other organizations); losses together with the transfer of workers of non-formalized knowledge, and, consequently, the efficiency of processes.

Structural intellectual potential covers a wide range of intellectual resources formed within the corporation itself with different levels of objectification. The highest level in this list is officially recorded knowledge, legally protected in patents and trademarks. Resources represented by software and formal processes have a somewhat lower level of "autonomy". Further - the knowledge recorded in the instructions, manuals and other written forms.

Finally, from the other pole of the spectrum - intellectual resources embodied in a divided, subjective-objective knowledge about the behavior of workers in a given situation, recorded mainly in oral form and at the level of consultation of individual individuals (organizational culture). The main risks of managing structural capacity should include: infringement of intellectual property rights; incorrect (deformed) documentation and dispersion of hidden knowledge; weak and/or incompatible workflows; "freezing" of culture when its leading carriers leave the team; incomplete use by employees of software capabilities, instructions, standards; loss of flexibility and relevance, corporate procedures and processes; brand threats.

The intellectual potential of relationships is especially important in the activity of a corporation since it reflects its direct connection with the market. The power of customer loyalty (in interaction with the brand) determines the current and future potential of business generation. Relations with suppliers, contractors, and partners from strategic resources are also significant. The main risks of managing potential relationships include the following: high elasticity of loyalty to the corporation of consumers and partners; the commitment of individuals, not the company as a whole; unfair competition in poaching customers; stakeholder vulnerability to corporate policy change; negative associations with the corporation as a producer of goods/services, an employer, a partner, including in terms of the level of reliability of fulfilling obligations in bilateral and multilateral relationships.

The considered classification allows a more detailed understanding of the nature and features of risks in the management of intellectual potential and development of a set of measures related to their possible reduction or prevention. In the scientific literature, there is no exhaustive list of management mechanisms on this issue. The most common and practically tested, in our opinion, are the risk management methods for the structural elements of intellectual resources.

Regarding the risks of human potential management, measures taken by personnel services can be effective, in particular: careful selection of employees according to qualification, social, personal characteristics, possessing creativity, ability to learn; the introduction of an effective system of motivation to increase productivity and reduce malpractice and reduce employee turnover; conducting periodic certification of workers and identifying the necessary level of knowledge and skills; taking personal recognition for non-disclosure of official information; periodic (annual or quarterly) reminder to employees of the need to comply with certain rules of conduct.

To these measures, in our opinion, it is also advisable to add the following: the motivation of employees in the most effective training, so that development investments have a full-fledged return; refund by the employee in case of dismissal of funds spent on his training for the recent period, for example, a year. In this case, the corporation returns the investment, the results of which could be obtained by other organizations; effective change management; formalization of hidden knowledge.

In risk management, the structural potential is widely known for focusing on the protection against the loss of unauthorized use of the intellectual property. Measures to preserve ideas and formalize individual knowledge, in particular, their implementation in the daily activities of the corporation, ensuring sound effective training and consistent quality control is worthy of attention.

Risks in the potential of relationships can be reduced by fixing controversial points in contracts, implementing a flexible implementation policy, and maintaining the image of the corporation through marketing activities. Separately, it is worth highlighting measures aimed at preserving customer loyalty, for example, after-sales service and recall of low-quality goods that allow you to keep loyal customers in the long run and reduce the risks of losing a sustainable competitive advantage.

V. CONCLUSION

Management of intellectual potential is one of the key elements of the strategic management of a corporation. In practice, this process is accompanied by significant risks, the root cause of which lies in the inner essence of intellectual resources, and in the features of their use. Classification of risks in the management of intellectual potential by the stages of reproduction, the possible impact on the result over time, the structural elements of intellectual resources has applied value. The study of this problem allows us to develop a list of measures to reduce or even completely eliminate risks in the management of intellectual potential. At the same time, the question of the effectiveness of the methods used is not fully disclosed in the scientific literature and requires, in our opinion, further research and theoretical and practical development.

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