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***Research paper***



# Management of Innovative Behaviour of Human Resources

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**Abstract**

The purpose of the research is to manage the innovative activity of human resources. In order to achieve this goal, the procedure and components of such an analysis were determined. The directions of research of state of management of innovative activity of human resources are established. These include: analysis of human resources, analysis of conditions that ensure the implementation of such management and analysis of the economic efficiency of the enterprise. The factors influencing each of these directions of estimation of the state of management of innovative activity of human resources are grounded and systematized. Investigating the manifestation of these factors provides an opportunity to objectively assess how human resources management is effective and consistent with the innovative development of the enterprise. This approach also allows comparing best practices in human resource management. The definition of factors serves as the basis for forming an approach to a comprehensive assessment of the state of innovation activity management of human resources. The methodology for assessing the state of management of human resource innovation activity on the basis of rating is a new tool in this area. In addition, unlike existing assessments, it combines management, production and management of human resources. It was emphasized that human resources are the main factor of innovation development of the enterprise. The step-by-step procedure for assessing the state of innovation activity management of human resources is presented. The scale for analysis of the obtained evaluation results is proposed. It is noted that there is a need for further detailing the results to determine measures to improve the situation for a particular company. Approbation of the methodology of such an assessment of the state of innovation activity management of human resources for the seaports of the Black Sea-Azov basin was conducted.

***Keywords***: *innovative activity, human resources, rating estimation, seaports, human resources management.*

## 1. Introduction

Currently, the development of many countries is caused by the active use of innovations in all sectors of the economy and business areas. According to the World Bank, currently only 16% of economic growth is due to the development of physical capital, 20% to natural capital, the remaining 64% are related to human resources realized as innovations. In the era of the information economy, developed countries receive up to 40% of their gross national product as a result of applying an effective system of innovations [1]

In a post-industrial society materialized knowledge of goods and services forms an increasing part of the newly created value. This process is developed through the growth of the science intensity of the produced products and the development of the market for intellectual and innovative goods and services. According to the expert estimates, the world market of innovative goods and services is growing five times faster than traditional markets.

In consideration of the key role of knowledge in social development, in the 90s of the 20th century the "education industry" developed rapidly. The volume of investments in human capital increased both from state and private enterprises. Investments in intellectual capital are considered to be the most effective investments. Thus, according to E. Denison's calculations [2], investments in intellectual capital give a return of 5-6 times more than in material production. By this time 15-20% of the time is spent on retraining specialists in the United States. It is believed that an expert should improve his skills 5-8 times for the entire period of his professional career. The increase in the role of the intellectual principle in social production is shown by the transformation of workers engaged in the generation, transfer and use of knowledge into the dominant group in the total number of employed. Investments in knowledge, the creation of knowledge networks are key factors in the development of innovations, and their dissemination is a source of productivity and competitiveness growth. Thus the standard of living of individuals and society as a whole is being improved.

So, there is a process of transforming the conceptual role of the human resource in production. Previously the labour (human resource) was considered as a traditional factor of production on an equal basis with other material factors (equipment, materials), and therefore the task of minimizing costs was naturally reduced to saving primarily wages. But at present the worker is the source of the enterprise's well-being, key intangible resource, the capital of the enterprise. Therefore, an enterprise aimed at innovative development, application of knowledge in its activities should pay attention to the activation of the innovative activity of human resources. Innovative activity and creativity of human resources are becoming the main factors of its competitiveness and development.

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## 2. Determination of factors characterizing the direction of analysis of the state of management of innovation activity of human resources of the enterprise

In order to get an answer, how effective is the management of the innovative activity of human resources in a particular enterprise, or whether its system meets the requirements of the environment, it is necessary to have an integrated and at the same time a detailed view of its condition. Obtaining such information necessitates an analysis the purpose of which is to determine the directions of obtaining quantitative information on the state of management of innovative human resources activities. It can be used both in making investment decisions (the head of an enterprise) and in determining the directions of improvement of the state of the enterprise management (for innovation development and competitiveness).

Analysis of the state of management of innovative activities of human resources of enterprises in modern conditions in Ukraine is a complicated issue and needs careful consideration. This is explained by the fact that the existence of an innovation management system for human resource management is not an end in itself. Its main functional purpose is to ensure the efficiency of management of the innovative activity of human resources of enterprises in the face of their hard competition and survival. In this regard, it should be emphasized that the state of the management of innovative human resources activities cannot be concluded on any separate grounds, a particular characteristic of the enterprise. One cannot deny the fact that it is impossible to judge by any subjective indicator how efficient the human resources management system is, how much incentives and motivation correspond to the situation prevailing in the enterprise and in society, how much corporate values allow human resources to be realized, how much the quality of working life provides a balance of the system of "man-enterprise", as the humanization of labour and socio-psychological conditions allow self-actualization of a person. And, finally, to what extent all of these elements are reflected in the existing system of management of innovative activities of human resources if any at all.

For example, information about encouraging and motivating employees on innovation (the amount of costs for these activities, their profitability, etc.), of course, gives an idea of the state of management of innovative activities of human resources, but it cannot be called complete. Firstly, in theory and in practice there is no unambiguous idea of the "best" or "universal" mechanism of motivation. Secondly, even the existence of an appropriate incentive system cannot be sufficient for all cases but even a necessary condition for the innovative activity of the enterprise. In addition, it should be taken into consideration that modern enterprises must be aimed at motivation not by some kind of incentive (usually material), but by creating such conditions that would have contributed to the interest of employees in creating a quality product or service based on innovative technologies. This determines the complexity of the new approach to managing the innovative activities of human resources of the enterprise.

In turn, the focus on the economic efficiency of the company as the main indicator of the efficiency of management of innovative human resources activities has a certain background at least because economic efficiency, profit making is the main purpose of any enterprise, regardless of the legal form or sector affiliation. However, there are some factors that make it impossible to use this characteristic as an integral part of the assessment of the state of management. The first group of factors is related to the existence of differences between the indicators of profit in general, the profit per unit of human resources, and the cost of it (determining the profitability of human resources), the size of which is an important indicator for both the head of the enterprise and potential investors. These factors are common to all enterprises. However, in Ukraine there are specific reasons that also do not allow the use of profitability as the main and only one. This is due to the need to take into account the objective factors that lead to a reduction in economic efficiency during the period of economic transformation, due to the presence of negative economic and political events in the country, which cannot be excluded on a one-off basis. In addition, the market economy itself does not provide for a permanent profit, since there are periods of ups and downs in the market, therefore, for development, it is always necessary to have a "reserve" and not to worry about temporary losses.

There are also reasons associated with the existence of significant differences between the actual and documentary efficiency of enterprises, due to imperfect mechanisms of state influence on the economy. In this case, it is not only and not so much about the mechanisms of control, but rather the revision of the strategic goals and methods of economic reforms.

Consideration of the above-mentioned reasons suggests that the effectiveness or ineffectiveness of management of innovative activity of human resources of an enterprise can be judged only by considering various aspects of the activity of a particular enterprise, taking into an account the action of a number of factors. Obviously, the question of which factors themselves can and must be included in the examination of the state of governance is a separate topic. Therefore, in order to obtain comprehensive information on the state of human resources management, it is recommended to highlight the directions of its analysis according to the components of the human resources innovation management system presented in this work, namely, the unity of the subsystem of provision and management subsystems.

Obviously, analyzing the management subsystem, namely, the available human resources, we are determined with the opportunities that we have now: human capital, intellectual capital, social and organizational one. At the same time, analyzing the components that form the subsystem of human resources management, we are determined with the ability to influence the situation and determine the direction of its improvement in accordance with the stated goal. Simultaneously, the efficiency of managing innovation activities of human resources in the broad sense is also one of the characteristics that should be taken into account when analyzing the state of management of innovative activity of human resources of enterprises.

An analysis of the level of innovation activity management of human resources is recommended in three directions: human resources, conditions ensuring implementation of management of innovative activity of human resources and economic efficiency of the enterprise [3-7]. The purpose of such an analysis is to obtain quantitative information on the level of management of the innovative activity of the human resources of the port, which can be used both in making investment decisions and in determining the directions of improving the state of human resources management of the enterprise. Synchronically, the manager, as a potential investor, is interested not only in the current state of affairs, but also in the prospects of the company's development. This information is interesting from the standpoint of forecasting the effectiveness of contributions to such assets as human resources. In some cases, the prospects for developing innovative human resource management can be the basis for a positive investment decision, even if the current state of this area is unsatisfactory.

In each of the established areas of analysis, it is possible to highlight certain aspects that characterize one or another part of the research, that is, to form a block structure that will form the basis for a more detailed analysis of the directions. Thus, the analysis of human resources includes such aspects as human capital, intellectual capital, social capital, organizational capital. As for the analysis of the conditions that ensure the implementation of human resources management, the following components are considered: humanization of labour, incentives and motivation, corporate values, socio-psychological climate, quality of working life.

The analysis of economic efficiency of the enterprise includes modernization of the structure of management, growth of econom-

ic efficiency, innovative potential, investment opportunities of the enterprise.

## 3. Evaluation of the state of innovation activity management of human resources

Investigation of the concept of management of innovative activity of human resources, approaches to their implementation and determination of the range of factors that determine its status in the sea trading ports provides the basis for making relevant conclusions on the directions of implementation of its improvement. Such conclusions may be based on a comprehensive assessment of the current state and perspectives of the development of management of innovative human resources activities [8-10]. One of the forms of such an integrated assessment is the methodology of evaluation based on ratings (ranking of indicators), which gives an opportunity to get a comprehensive image of the situation in the field under study at the enterprise concerned.

The creation of a methodology for assessing the state of innovation activity management of human resources is aimed, first of all, at identifying weaknesses in the chain of "human resources – innovation activity – efficiency and competitiveness of the enterprise". Conducting such an assessment will allow the head of the company to obtain an integrated, integrated assessment of the company, as well as see the situation in the industry, identify with competitors. Consequently, such an assessment, first of all, requires the enterprise itself to make informed management decisions on innovation development. In addition, such an assessment attracts the attention of perspective human resources, which are aimed at self-actualization and are looking for enterprises that create such conditions for their employees. Also, the assessment is needed for service users, as innovation development creates an interesting and qualitative supply in the market of the industry. Stakeholders may also be regional and state authorities, potential investors who also need to have an appropriate background, relevant information about the state of the company and its market position.

As we see, the enterprise itself is the initiator and the direct executor of the assessment of the state of management of the innovative activity of human resources. The purpose of this assessment is twofold: on the one hand, to understand the real situation in the enterprise, the proper use of human resources and, on the other, to increase the attention of consumers, competitors, state authorities and investors.

Such an increase of attention may positively affect the activity of the enterprise in the case of positive evaluation results. In the opposite case, the assessment may worsen the situation and adversely affect the position of the company on the market. However, even upon a risk of loss of funds due to a decrease in the interest of consumers, state or investors, it is necessary to evaluate the state of management of innovative activity of human resources. Otherwise the enterprise may lose much more. Consequently, it will have an incentive to improve its results.

An assessment of the state of innovation activity management of human resources is, on the one hand, an intrinsic purpose instrument, which determines the direction of applying management's efforts, on the other hand, as a means of making informed decisions on the innovative development of an enterprise.

The methodology for assessing the state of management of human resource innovation activity on the basis of rating is a slightly new instrument in this area.

The analysis of publications in the field of evaluation of human resources management systems, as well as the establishment of the relationship between the indicators of the efficiency of the enterprise's innovation activities and the indicators of the efficiency of human resources use, makes it possible to distinguish two main concepts that underlie such assessments.

In order to develop an alternative method, it is recommended to assess the factors determining the state of management of the innovative activity of human resources in order to determine the weight of each of them, provided that the total weight of the whole set of factors is equal to 100. Obviously, such a question as the determination of the weight coefficient of the factor cannot have a whole-based basis for a well-founded solution, but it is advisable to get acquainted with this purpose with the views of experts on the impact of each of them. It is assumed that in order to provide an opportunity to get an idea of the level of management of the innovative activity of human resources in the enterprise, each of them must be assigned a rating. To establish the rating, a 100-point scale is adopted. Enterprises in which all the selected factors the picture is negative receive rating 0, the rating of 100 is for enterprises in which all the selected factors are optimal.

The procedure for assessing the state of the management of innovative human resources activities has a certain purpose and structure of directions. It is carried out in several stages.

The first three experts make an assessment of the weight of factors that determine the state of management of the innovative activity of human resources of the enterprise. At the same time experts are asked to evaluate:

- the specific weight of the directions of assessment (human resources, conditions that provide innovative activity of human resources and economic efficiency of the enterprise) in the overall assessment of the state of innovative activity of human resources (stage 1);
- the specific weight of the blocks of factors in the given direction of assessment (stage 2);
- the specific weight of a particular factor attributed to one or another block in one direction or another (Stage 3).

The fourth stage of the assessment involves assessing the state of management of the innovative activity of human resources at the relevant enterprises of the industry by the factors selected and their weighting factors.

At each stage at the disposal of the expert there are 10 points. At the same time, in the first three stages, it is necessary to distribute 10 points between defined directions, blocks, factors. At the fourth stage - to evaluate (based on the maximum assessment of each factor also by 10 points) the state of management of the innovative activity of human resources at a particular enterprise.

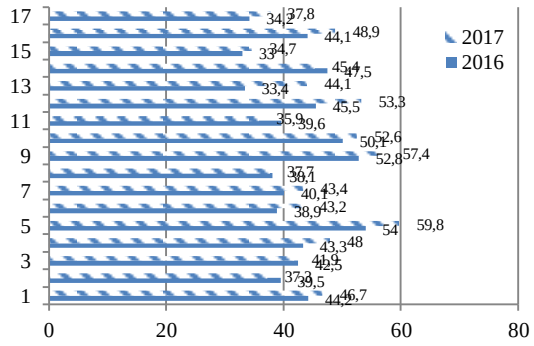
The synthesis of the results of the evaluation by factors becomes the basis for determining the integral and a number of specific rating indicators whose values are used to determine the rating group of enterprises.

The basis of the assessment of the state of innovation activity management of human resources were 17 seaports of the Black Sea-Azov basin during 2016-2017. The experts were the representatives of top management of the branches of the Administration of Seaports of Ukraine, the chiefs of ports, heads of functional units and specialists of personnel departments. The analysis of the results of evaluation of the level of management of innovative activity of human resources is carried out according to the scale given in Table. 1. At the same time, in ports that received more than 75 points, there is a high level of management of innovative human resource activity, while ports that have scored less than 25 points are regarded as having an unsatisfactory state of management of the innovative activity of human resources. In general, in our opinion, it is possible to identify four groups of ports in accordance with the possible assessment of the state of management of the innovative activity of human resources.

**Table 1:** Rating groups of ports depending on the state of management of innovative activity of human resources

| Number of points | Rating group | Characteristics of the level of corporate governance |
|---|---|---|
| >75 | A | High |
| 51-75 | B | Medium |
| 26-50 | C | Low |
| <25 | D | Not satisfactory |

Consequently, the total rating received by each port on the basis of the evaluation, is given in Fig. 1




1. Mariupol Sea Port;
2. Kerch Sea Port;
3. Seaport of Varna;
4. Sea Port of Tuapse;
5. Seaport of Constantsa;
6. Sea Port of the Caucasus:
7. Mykolaiv Sea Port;
8. Poti Sea Port;
9. Odesa Sea Port;
10. Novorossiysk Sea Port;
11. Sea Port "Zonguldak";
12. Sea Port "Yuzhny";
13. Sea Port "Eregli" ("Erdemir");
14. Sea Port "Rostov on Don";
15. Izmail Sea Port;
16. Black Sea Seaport;
17. Sea Port of Batumi.

**Fig. 1:** The overall rating assessment of the management of the innovative activity of human resources of the seaports of the Black Sea-Azov basin

As it can be seen from Figure 1, the data by enterprises is presented in the form of a histogram. Each column corresponds to the value of the rating, obtained by a separate port. In addition, the figure indicates the boundaries of zones of rating groups, which makes it possible to identify visually which group the port attributed to the overall rating.

The evaluation of the management of the innovative activity of human resources in seaports on the basis of ratings has made it possible to determine the general state of such management in the Black Sea-Azov basin, to draw attention to leaders. These include seaports such as Constantsa, Odesa, Novorossiysk, Seaport of Yuzhny.

But such an analysis would not be enough for managers to determine the direction of corrective action and further improve the human resources management system to meet the requirements of the environment. The current information base provides an opportunity for further in-depth assessment of specific areas that characterize the state of management of innovative activity of human resources.

## 4. Conclusions

Thus, in the work on the basis of the generalization of theoretical and practical experience, the necessity and expediency of conducting research on management of innovative activity of human resources was substantiated. The definition and systematization of factors characterizing the state of management of innovative activity of human resources for each of the directions of the analysis of the state of human resources management are carried out.

The practical need to evaluate the state of management of innovation activity of staff, comparing such assessments to enterprises in one industry and the establishment of leadership prompted the need to develop a methodology for rating assessment. This assessment represents a new approach to assessing the state of innovation activity management of staff. First, it involves an expert assessment of the weight of each of the factors characterizing the state of human resources management, that is, the significance of their impact on the final result. Secondly, it involves expert assessment of the intensity of the manifestation of a complex of factors in a particular enterprise. In addition, it is conducted on the basis of certain areas of analysis: analysis of human resources, analysis of conditions that ensure the implementation of human resources management, analysis of the economic efficiency of the enterprise.

Formation of the general evaluation procedure involves specifying and detailing its stages in order to provide an opportunity for calculations based on information on the actual intensity of the manifestation of certain factors in the enterprises of the industry. We believe that the proposed method makes it possible to objectively compare enterprises based on the practice of managing innovative activity of human resources in each of them.

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