

Creating the System of Management of Human Resources Innovation Activity in the Sea Ports

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Abstract—The importance of human resources for the activation of the innovative activity has been grounded. It is taken into account that there is a necessity in changes which provide required conditions of labor for innovative activity and, when implemented in practice, there is a possibility to adapt the human resources management system to the peculiarities of the sea port innovative development. The model of the functional system for human resources innovative activity management has been improved, it has its own goal, directing and directed subsystems and, in contrast to existing ones, establishes particular parameters of its own provision: corporate values, social and psychological climate, humanization of labor, quality of labor life, stimuli and motivation. These parameters create labor conditions the use of which allows the management to raise motivation and reach self-actualization of human resources for shaping the behavior which is directed to innovations in all spheres of the enterprise. The factors have been determined and systemized that characterize the state of human resources management in the sea ports by defining the following directions: human resources; conditions which support implementation of human resources innovative activity; economic efficiency of the sea port. It has been proved that application of this systematization allows defining in each direction corresponding blocks and indicators which characterize them for performing the assessment of conformity of innovative development management system in the port with the established goal.

Keywords—*innovative activity, human resources, rating estimation, seaports, human resources management*

I. INTRODUCTION

Modern tendencies of international sea shipment development have conditioned the growth of importance of sea commercial ports as the main factors of social and economic growth both in the whole world and in particular countries. Sea ports perform integrative function as they provide geographical availability of the countries and make it easier for the goods and services to be presented at the world market. Ports are the key elements of transport network and create conditions for development of other sectors of the country economy, so introduction of the innovations in their activity will greatly increase their efficiency and broaden their possibilities. With the development of the scientific and

technological process profound changes have occurred in understanding the role and place of human resources in providing innovative activity at enterprises and the ports in particular. Human resources have acquired special importance for the enterprise development and growth of this competitiveness [1] - [8]. It is explained by the fact that in modern conditions the success of the enterprise is determined by the efficiency and the quality of the innovative processes, the speed of human resources adaptation to the innovations, their creative potential and innovative approach and initiatives.

Thus, the relevance of the issue concerning the increase of human resources innovative activity for the port development and improvement of management methods regarding these processes have a great importance for the economy of the country which proves the necessity of researching this issue.

II. SUBSTANTIATION OF THE VALIDITY OF HUMAN RESOURCES FOR THE INNOVATIVE DEVELOPMENT OF MARINE INDUSTRY ENTERPRISES

Human resources present a very important part for the innovative development of the ports. Reduction in innovations connected with insufficient innovative activity of the ports being studied is explained by the low level of innovative culture among the management and the employees as well as by the shortage of qualified innovatively active personnel. 32.1% experts have defined these reasons. Expert evaluation has found out that the modern stage of the sea port development is characterized by insufficient provision of personnel of innovative type. It means there is a shortage in personnel that is capable of and inclined to innovations "Tabl 1".

According to the data presented in "Tabl 1" we can make a conclusion that the increase of the innovative activity should be started with the port managers. Insufficient provision and not available provision make in this category almost 81%. Only 16% have pointed out sufficient provision. Yet, this is that very personnel that have to manage this process, so the statistics shows that there are serious problems in the industry. Management personnel is

responsible for the enterprise to reach its strategic goals, they make final decisions that is why changes of the sea port management should be started with them.

TABLE I. EXPERT EVALUATION OF THE LEVEL OF PROVISION OF THE SEA PORTS WITH THE PERSONNEL OF INNOVATIVE TYPE, %

Professional groups of employees	Percentage of experts that pointed out the level of provision			
	sufficient	insufficient	Not available	Hard to answer
Management personnel	16,1	71,5	9,5	1,5
Engineering and technical personnel	32,8	63,5	1,5	1,5
Professionals of the corresponding qualification	54,7	36,5	4,4	3,6
Law professionals	41,6	40,9	9,5	6,6
Highly qualified employees	16,8	70,1	9,5	2,9
Office employees	56,9	27,0	4,4	8,8

Thus, creating human resources capable of innovative activity is an important task in the strategy of the commercial port. For providing the enterprise with human resources capable of innovations the importance is placed on the creativity level and overall culture, experience, education and professional training, stimuli and motivation. Survey results prove that creating qualitative potential of human resources for innovative activity at the marine industry enterprises demands not only high general education and professional training but also innovative behavior of the personnel and their psychological commitment for participating in different forms of the innovative process. For spreading innovative behavior it is necessary to support and motivate human resources activity taking into account the fact that content and importance of the work they perform is essential for them. If innovative work makes the person interested, allows showing their creative potential, corresponds with leading values and need in self-expression, this becomes a powerful inner stimulus for enhancement of the activity and an essential condition for the productive innovative labor. Inner motivation of the employee for development, implementation and acceptance of the innovations can be supported by the needs in creative self-enhancement strengthened by the motives of achievement for the increase of their own professional status, desire to be useful at their own enterprise through implementation of technological innovations or ideas; attempts to be recognized among the colleagues, to get certain material bonuses, social guarantees and privileges from the enterprise. Complex changes in the human resources management system are required for the human resources innovative behavior to be a widely spread type of behavior. For this purposes the following should be altered: content and conditions of labor, quality of labor and social life, adequate management approaches for progressive innovative development should be applied, innovative management should be provided with corresponding personnel. It is important to activate the capabilities of the laborers that are connected with their professional skills, intellectual potential, educational and professional training, system of interests, motivation and their development. From the experience of the leading national enterprises it is obvious that reserves of human resources development as a factor of innovative reconstruction of economy should be searched at the enterprises themselves. It is the enterprise

where cardinal alterations should be performed in the management system inside the company.

III. PECULIARITIES OF HUMAN RESOURCES INNOVATION ACTIVITY MANAGEMENT AT THE PORTS

Having considered the systems of human resources management in the world leading countries, we have determined their general features and specific characteristics. As the sea port which will be described in this work are the enterprises that constantly interact with the international organizations, the international experience in human resources management appears to be timely and useful for them. The management system pays the greatest attention to such management functions as creation, application and development of the enterprise human resources. Corresponding conditions are necessary for these functions to be implemented and for the system to achieve its goal-consolidation of economic and social goals of the enterprise activity. Thus, specific conditions of functioning of human resources management systems have been received and they were special in each studied country. The following can be included in these conditions: stimuli and motivation, corporate values, quality of labor life, labor humanization, social and psychological climate. One of the most important tendencies of the development if human resources management is currently a systematic approach which is considered as a modern way of managerial thinking that allows presenting organization and its subsystems management at the market environment. Application of this method allows opening the inner structure of the human resources management system as an integral system that is formed by the subsystems, elements and interrelation system. All determined features have become the ground for developing the functional model of the human resources innovative activity management system at the enterprises of marine industry. Clear definition of the system goals is initial conditions for performing a systematic analysis and it should be noted that the main goal of human resources innovative activity management system at the enterprise is the achievement of such level of the development of the latter when the main component of the enterprise value is the quality of the intellectual capital. In this context the quality of the intellectual capital is understood as its ability to generate new knowledge and applying it to make decisions that are necessary for the support of the innovative activity at a new level and the provision of the innovative development of the enterprise. Thus, the main functions of the enterprise management subsystem are rational creation, application and development of human, intellectual, social and organizational capital for achieving social and economic goals of the enterprise and integration of all functions directed to human factor in the organizational system. The management subsystem also includes principles, methods and approaches of human resources management developed by the science and applied in practice which are realized interacting with each other [8], [9], [10]. Methods of human resources management are means of influence on the personnel and certain employees with the purpose to coordinate their activity in production process. As modern enterprises are directed to the innovation strategy of the development for a continuous period of time, it is supposed that a certain subsystem should be built and a certain mechanism of its commencement should be developed which

will create conditions for determining the quality of labor and its motivation commitment for self actualization in professional activity, change in the contest of the performed work, desire for implementation of the innovations [11]-[13] "Figure 1".

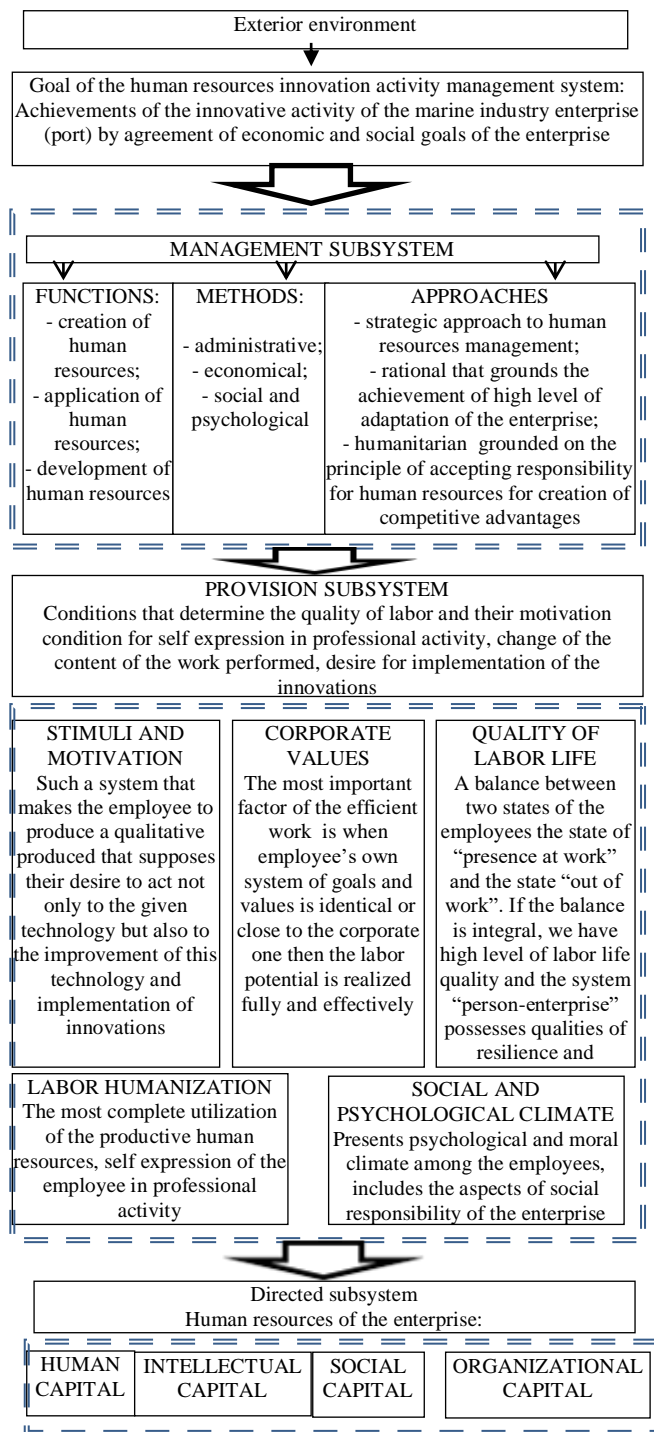


Fig. 1. Functional model of the human resources innovative activity management system at the ports (developed by the author)

Thus, we suggest application of the functional model of the human resources innovation activity management which has its specific purpose, directing and directed subsystems and in contrast to the existing ones establishes particular parameters of its provision, i.e.: corporate values, social and psychological climate, labor humanization, quality of labor

life, stimuli and motivation. Its application allows the management to raise motivation commitment and self actualization of human resources for creating innovative activity. Subsystem of provision the functioning of human resources management system includes [13]-[15]:

Stimuli and motivation – such a system that makes employees create a qualitative product that takes into consideration their desire not only to act according to a given technology but also to improve this technology, and implement innovations.

Corporate values – the most important factor of the work efficiency: if employee's own system of goals and values is identical or close by its content to the corporate one, the labor potential is realized fully and efficiently.

Quality of labor life – a balance between two states of the employee – state "presence at work" and state "out of work". If the balance is integral, we see high level of labor life quality and the system "people-enterprise" has features of reliability and resilience.

Labor humanization is the fullest utilization of the human productive resources, self-realization of the employee in their professional activity

Social and psychological climate is a psychological and moral climate among the employees that includes the aspects of the enterprise social responsibility. The work suggests the model of human resources management by certain indicators. In subsystem of human resources management provision we have determined corresponding components which usefulness is manifested in any country where it is applied. Its main task is to provide the achievement of the main goal of the enterprise innovative development by utilizing human resources management.

At the same time, taking into consideration the performed research we can make a conclusion that human resources management system in Ukraine lacks most features usefulness of which is defined by the experience of the world leading foreign countries. In this case we deal with mostly all the elements of human resources management system that gives an opportunity to make the picture of the general directions for improving the system of human resources innovative activity management.

IV. DETERMINATION AND SYSTEMATIZATION OF THE FACTORS THAT CHARACTERIZE THE STATE OF THE HUMAN RESOURCES MANAGEMENT SYSTEM AT THE SEA PORTS

To receive the answer how much efficient the human resources innovative activity management is or how much its system corresponds with the requirements of the exterior environment we should have a complex and at the same time detailed view of its state. Obtaining this information means the necessity to perform an analysis the purpose of which is determine the directions of receiving quantitative information concerning the state of human resources innovative activity management that can be used when making investment decisions (by the head of the enterprise) and when determining the directions for improving the state of the management (for innovative development and competitiveness).

Analysis of the state of human resources innovative activity management at the sea commercial ports in modern conditions is a complicated issue and requires thorough consideration. It is explained by the fact that the existence of human resources innovative activity management system at the sea commercial ports is not a goal in itself. Its main functional designation is to provide efficient human resources innovative activity management at the sea commercial ports in the circumstances of violent competition and survival of the enterprises. In this connection it should be under-lined that we cannot make a conclusion concerning the state of the human resources innovative activity management in the port by some separate feature, this or that specific characteristic of the enterprise activity. We cannot deny the fact that we cannot judge by any subjective indicator how much effective human resources management system in the port is, how much stimuli and motivation meet the requirements of the current situation at the enterprise and the society, how much corporate values allow human resources to realize, how much the labor life quality provides the balance of the "person-enterprise" system, how much labor humanization and social and psychological conditions allow the person to express themselves and, finally, to what extent all mentioned elements are presented in the human resources innovative activity management system if there is any at all.

For example, the information concerning stimulation and motivation of the employees regarding the innovative activity (scope of expenditure for these purposes, their profitability and so on) surely gives a view as for the state of human resources innovative activity management although it cannot be considered complete as, first, both in theory and in practice there is no unanimous opinion concerning "the best" of "universal" mechanism of stimulation. Second, even if there exists, in our opinion, a working system of stimulation at the enterprise it cannot be a sufficient and even necessary condition for the enterprise innovative activity in all cases. Moreover, it should be taken into account that modern enterprises should be aimed for motivation not by some stimuli (usually material one) but by creating such conditions which will facilitate the interest among the employees to produce qualitative product or service based on the innovative technologies. This makes a modern approach to the human resources innovative activity at the enterprises a complicated issue.

Orientation for the economic efficiency of the enterprise as the main indicator of the efficiency of the human resources innovative activity management at the sea commercial ports has a certain ground only by the fact that economic efficiency, obtaining profit is the main goal of any enterprise notwithstanding its organizational and legal form or belonging to some industry. Although here there are also certain factors that make it impossible to use only this characteristic as an integral one for the evaluation of the state of the management. The first group of factors is connected with the existence of discrepancies between the indicators of profit in general, the profit for one unit of human resources and expenditures spent on it (determination of human resources profitability) the amount of which is an essential indicator both for the head of the enterprise and for potential investors. These factors are characteristic for all enterprises. Although there are specific reasons in Ukraine, which also

do not allow using the profitability level as the main and integral one.

It is explained, first of all, by the necessity to take into consideration objective factors that lead to the decrease of the economic efficiency during the period of economic transformation connected with the existence of negative economic and political events in the country that cannot be excluded at once. Moreover, market economy itself does not suppose constant receiving of profit as there are periods of increase and decrees at the market that is why for the development it is always necessary to have a "reserve" and do not pay much consideration to the temporary loss.

There are also reasons connected with the existence of serious differences between the factual and documented efficiency of the enterprises which appear due to imperfect mechanisms of the government influence on the economy. Here we speak not only about the mechanisms of control but more about finding different strategic goals and methods of economic reforms. Consideration of the above mentioned reasons allows supposing that the efficiency or inefficiency of the human resources innovative activity management in the sea commercial ports can be judged only after studying different aspects of activity of this or that port taking into consideration a number of various factors, it is obvious that the issue of which factors can and shall be included into consideration when studying the state of the management should be a separate issue. That is why to obtain complex information as for the state of human resources management we recommend to define the directions of its analysis according to those components of the human resources innovative activity management system at the sea commercial ports which are presented in this work as a consolidation of the provision subsystem and management subsystem. It is obvious that when analyzing the management subsystem and the presence of human resources in particular, we determine the possibilities which we possess at preset moment: human capital, intellectual capital, social and organizational capital. At the same time, when analyzing the components which form the subsystem of provision human resources management we find the opportunities to influence the situation and determine the directions for its improving in accordance with the established goal. At the same time we have substantiated above that the efficiency of human resources innovative activity management in broad scope is also one of the characteristics which should be taken into account when analyzing the state of human resources innovative activity management at the sea commercial ports. Therefore, the analysis of the state of human resources innovative activity management at the sea commercial ports is recommended to be conducted in three directions: human resources; conditions that provide implementation of human resources innovative activity management and the economic efficiency of the port "Figure 2".

At the same time the head as a potential investor is interested not only in the present state of the situation but also in the perspective further development of the port. Such information is essential for the forecasting of the efficiency of financial contribution in such asset as human resources. In certain cases favorable conditions for the development of human resources innovative activity management at the sea commercial ports become a ground for making a positive

investment decision even in case of unsatisfactory current state in this sphere.

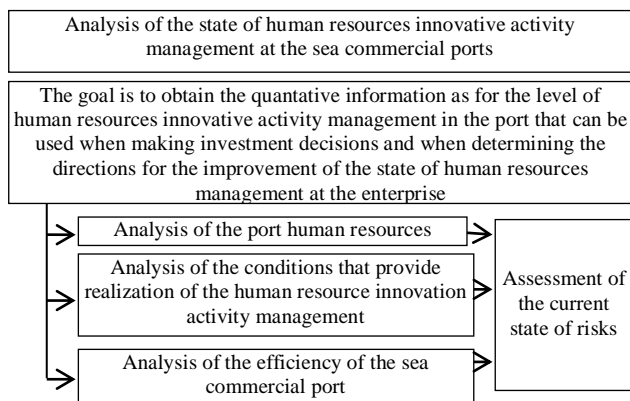


Fig. 2. Goal and directions of the analysis of the state of human resources innovative activity in the sea commercial ports

Inside all established directions of the analysis we can define certain aspects that characterize this or that side of the direction, it means to form a block structure of the directions which will become a ground for a more detailed analysis "Figure 3".

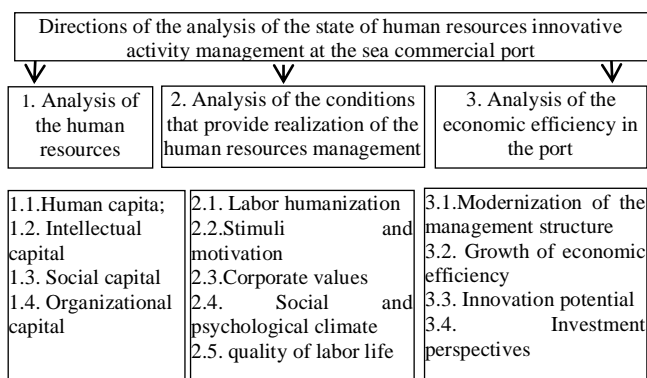


Fig. 3. Block structure of the directions for the analysis of the human resources innovative activity management at the sea commercial ports

Further we characterize in detail each of the determined directions, blocks and factors which attribute to them. The selection of the factors that influence studied indicators was made on the basis of the analysis of theoretical literature and the opinion of the majority of the experts – the leading professionals of the industry.

Block 1.1. Human resources. Having considered and analyzed a lot of approaches to the notion "human resources" we completely have agreed with the opinion of M. Armsrtong [1], [2] who says that human resources are presented by the consolidation of such capitals as human, intellectual, social and administrative. Taken together they create in each person its own unique synergetic effect which becomes a source for the competitive advantages of the enterprise. Let consider each of them as a separate block.

Block 1.2. "Intellectual capital". Intellectual capital is made of the reserve and flow of the knowledge useful for the organization. Having analyzed different approaches we will reveal the content of the main elements of the intellectual capital: perception intellect as psychic processes of attention, concentration, recognizing the objects of the exterior

environment and yourselves, their depiction and remembering; logical (systematic) intellect that contains logical, systematic, casual thinking; emotional intellect-means aesthetic skills, capability to be aware of own inner emotional world and managing it; creative intellect which determines the level of flexibility of thinking processes and behavior of a person, capability of not only depicting in own consciousness the surrounding environment but also being aware of it in a non-standard manner; social and cultural intellect as a capability to be aware of own social status and commitment (social mission), capability to communicate and cooperate effectively with other people; entrepreneurship intellect as strong-willed qualities of a person, goal setting, pragmatism, practical intelligence, capability of seeing in the surrounding world the opportunity for creating practical result and obtaining a profit form it (economic profit). As we can see, more than fifty per cent was received by the factors as perception intellect, logical (systematic) intellect, emotional intellect, creative intellect, social and cultural intellect, entrepreneurship intellect.

Block 1.3. "Organizational capital". Organizational capital is assimilated knowledge that the organization possesses which is kept as a data base, management documents and so on. It is often called structural capital. Therefore, the experts have selected six factors: rules and procedures, technologies, corporative information systems, data bases, copyright, patents, know-how, licenses, corporate culture.

Block 1.4. "Social capital". Social capital is made of knowledge acquired due to the network of connections both inside the organization and beyond its limits: it means developed knowledge which is acquired in the process of communication with other people. The experts have selected five factors: information resource, scope of interrelation network, informal connections and relations, social brokerage, mutual trust.

Direction 2 "Analysis of the conditions that provide implementation of the human resources management"

Block 2.1. "Labor humanization". Labor humanization is the improvement of labor activity management which purpose is for the employee to reveal their productive reserves, first of all, intellectual and psychological. Labor humanization is performed on the base of the improvement of labor, rest, relations among employees, forms and amount of labor payments and other ways that directly influence the character of relations inside the organization. In general, it is necessary to mention that the main mission of the modern management based on the principles of labor humanization is creating of the conditions for self expression of the employees in their professional activity. Therefore, the main factors are: safety, justice, self expression of the personality, social partnership.

Block 2.2. "Stimuli and motivation". The success of innovation development management depends mainly on a sound system of stimulation of the innovative activity. The experts have determined six factors: methods of direct actions – material, methods of direct actions – non-material, methods of indirect actions – material, methods of indirect actions – non-material, the application of the pragmatic model, communicative motivation model.

Block 2.3. "Corporate values". Corporate values are the essential structural elements of the company as they provide the closest connection between the emotions and behavior of the company's employees. The value system creates the inner core of the culture.

More than fifty per cent has been given to those factors: economic values, technological values, civil values, social and political values, values-goals, transcendental values which determine the level of development of block "Corporate values" [10], [11].

Block 2.4. "Social and psychological climate". Social and psychological climate is an accumulated effect from the activity of various factors that influence the personnel of the organization. It is revealed in labor motivations, communication among the employees, their interpersonal and group connections. In the opinion of the experts the most influential are the following factors: psychological compatibility, ethnic norms, culture of interrelations, observing the rules of psych hygiene, satisfaction from the work.

Block 2.5. "Labor life quality". Content of the concept quality of labor life is in the improvement of labor motivation, provision of variety and enrichment of the labor content, complete utilization of the intellectual, creative and moral potential of the employees. For the enterprise the quality of the labor life is one of the most important resources directly connected with the motivation factor of the organizational behavior. The enterprise pays for this resource providing the employee with the opportunity to realize their personal goals and at the same time to achieve the goals of the enterprise.

Direction 3. "Efficiency of the port management". In this case we evaluate not only the achievements in profit increase but also how the enterprise performs the modernization of the organizational structure, changes directed to its greater correspondence with the requirements of the exterior environment [12]. All these consolidated factors in this case should be divided into two blocks: evaluation of the modernization of the organizational and productive structures of the port and the evaluation of the economic efficiency growth. Thus, the state of the human resources management system is defined by a certain number of different both by nature as well as by importance factors.

V. CONCLUSIONS

The importance of human resources for the innovative development of marine industry enterprises have been grounded by the results of the conducted expert survey of the leading professionals of the marine industry enterprises by the parameters as determining the level of human resources readiness for the innovations, readiness and interest of the employees in innovative activity, provision of innovative type of personnel at the enterprise and determining the correspondence of the qualitative features of the employees to the requirements of the innovative activity, components of human resources innovative activity. Complex expert evaluation has allowed making a conclusion as for the necessity of human resources innovative activity growth as it presents the ground for the competitive growth of the sea ports due to innovative development. Taking into

consideration the foreign experience of management system functioning we have determined their main general features and those ones which are specific for each model which has become a ground for forming the functional model of the human resources innovative activity management system that has a specific goal, directing and directed subsystems and in contrast to the existing ones establishes special parameters for its own provision: corporate values, social and psychological climate, labor humanization, labor life quality, stimuli and motivation. Its application allows the authorities to raise the motivation and self expression of the human resources for creating their innovative activity. The analysis of the scientific literature and expert survey of the professionals with the purpose to obtain the quantitative information concerning the state of the human resources innovative activity management has determined the directions of conducting such research to which the following is attributed: human resources; conditions that provide realization of the human resources innovative activity management; economic efficiency of the sea port. Each of the established directions defines separate aspects that characterize this or that its side. It has allowed systemizing factors and forming a block structure for the directions, factors and indicators. It has become a ground for a more detailed evaluation of the human resources innovative activity management.

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