

MANAGEMENT IN ECONOMIC SECTORS

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OPPORTUNITIES FOR IMPROVEMENT OF INNOVATIVE ACTIVITIES IN THE SHIPBUILDING INDUSTRY

The main problems and features of the shipbuilding industry are generalized. The most effective ways to solve the problems of the shipbuilding industry and its further development are substantiated, such as intensification of innovative activities of enterprises in the industry, completion of their organizational and structural transformations, the formation of an organizational and economic mechanism for managing innovative activities of shipbuilding enterprises. The structural components of the organizational and economic mechanism for managing innovative activities of shipbuilding enterprises are determined. The blocks of the above-mentioned organizational and economic mechanism are identified, the composition of which is implemented using socio-economic, organizational-technical, informational, and legal methods united by characteristic features in rules, methods, tools, and procedures.

Keywords: innovations, innovative activities, innovation-driven development, innovation processes, organizational and economic mechanism.

Target setting. Shipbuilding is a strategic and important industry of the national economy. At the current stage, the main goal of shipbuilding development is to meet domestic demand and ensure competitiveness in foreign markets. This goal determines one of the urgent problems of intensification of innovation-driven of the shipbuilding industry, including the task of forming an effective mechanism for managing the innovative activities of shipbuilding enterprises and the commercialization of its results. The mechanism for managing innovative activities both at the level of the shipbuilding industry and enterprises, and especially high-tech knowledge-intensive enterprises, remains insufficiently studied, and the question of its structure remains debatable today. This is due to the different sizes of enterprises and different goals and tasks of their operation in a competitive environment. In such an important industry as shipbuilding, a number of problems have accumulated, the solution of which is impossible without its modernization and reform, creating a favourable investment climate, increasing interest in implementing an innovative way of development. Therefore, the study of problems and prospects of the shipbuilding industry, the opportunities of its innovation-driven development is of some interest.

Purpose statement. The purpose of the study is to consider the features, opportunities and prospects of innovation-driven development of the shipbuilding industry in Ukraine.

The statement of basic materials. The main problems of the shipbuilding industry stem from its features: the duration of building periods of ships and their significant cost. These problems are largely due to the fact that shipbuilding belongs to the mechanical engineering industries, which are difficult to adapt to market realities. In addition, there are a number of other problems. Firstly, problems related to obsolete infrastructure of production facilities, technologies and equipment and the costs of their use as a result; unsatisfactory production rates; lack of financial resources due to low credit and investment attractiveness of

projects; low growth rates of related industries, and often a decline in their production; inefficient cooperation of enterprises due to violation of technological relations; shortage of highly qualified specialists. Secondly, there are the problems of improving the seaworthiness of ships and reducing operational restrictions. The issue of import substitution and relations with suppliers is a separate problem. Therefore, the further development of shipbuilding is determined by both external (global trends in technical and economic development, competition in world markets, the emergence of new energy sources) and internal factors (priority development goals, needs for specific products, level of organizational and technological development, etc.) and dealing with system problems.

Today, there is a state policy formed on a low-tech basis in Ukraine. In addition to the immature market environment, there are such phenomena as imperfection (in fact, lack) of strategic innovation management, insufficient institutional support for innovative activities, lack of demand for innovation and the practice of motivating participants in innovation processes. Innovative activities are positively influenced by forms of ownership, territorial factor, microsystem of innovation infrastructure, availability of innovative research institutions and globalization processes¹.

However, the most effective way to solve the problems of the shipbuilding industry is to find ways to intensify innovative activities. Innovation is not only the most important means of competitive struggle, but also a factor of sustainable development.

There is an extremely low level of innovation processes in the machine-building complex of Ukraine². The problems of unsatisfactory operation of the innovation and investment mechanism of the machine-building complex of Ukraine could not be ignored by shipbuilding either. With the transition of domestic shipbuilding to operation in new conditions, it became clear that we need intensification of innovative activities, which should not end with researches, but with commercialization and market entry of products that have consumer demand, and to change approaches to its organization.

To do this, in practice, a sequence of interrelated actions related to creation of innovative products should be built, including formation of the concept of innovative project, carrying out of applied researches with technology development, design and production of final products, its commercialization and taking measures to assure markets.

One of effective ways of further development of innovative activities could be the organizational and economic mechanism of their management³.

The components of such mechanisms as elements of any economic system should provide the basic functions of management, including planning and organization of activities, incentives and control. Taking this into account, it should be considered that the formation and development of the organizational and economic mechanism of innovative activity in the shipbuilding industry should be aimed at planning and organisation of measures to intensify and stimulate innovative activity, as well as monitoring, evaluation and control of its results.

The structural components of the proposed organisational and economic mechanism for managing innovative activities of shipbuilding enterprises are presented in Table 1.

When forming the mechanism, it is advisable to use a combination of system and process approaches, as in the system approach innovative activity is considered as a set of interrelated elements (structures and methods), and in the process approach management of any activity should be considered as continuous interrelated actions to perform management functions.

To ensure greater efficiency, the structure of the organizational and economic mechanism for managing innovative activities in the shipbuilding industry should consist of five key blocks. The first block is technical support for innovative activities. It defines the technologies and equipment that can be used to create innovative products, the condition of fixed production-related assets, their technological maintenance and future plans for their renewal. The second is financial and economic support for innovative activities. It includes the necessary financial and administrative resources that can be involved in innovative activities, as well as the necessary conditions for their rational use and the formation of proposals on the necessary structural changes.

¹ Казачков, І., Стємпень, О. (2013). Шляхи забезпечення інноваційного розвитку промислового підприємства. *Запорізька державна інженерна академія* <http://www.zgia.zp.ua/gazeta/evzdia_5_090.pdf> (2020, May, 25).

² Dedahanov, A., Rhee, C., Yoon, J. (2017). Organizational structure and innovation performance. *Career Development International*, 4, 22-26.

³ Сакун, Л. (2017). Проблеми та перспективи інноваційного розвитку машинобудівної галузі України. *Економічний вісник*, 3, 119-127.

Table 1

**Structural components of the organisational and economic mechanism
for managing innovative activities of shipbuilding enterprises***

| Components | Types of components |
|---|---|
| Methods | Organizational and administrative, economic, informational, motivational |
| Tools | Legislation in the area of innovation, tax benefits, personnel incentives and motivation, operational planning, monitoring, control and accounting. |
| Resources | Material and technical, administrative, financial, labour |
| Processes | Creation and implementation of innovations, research and development and engineering efforts, stimulation and motivation, protection of intellectual property, commercialisation of results, development of innovation potential. |
| Technologies for managing innovative activities of the enterprise | Informational, organizational |

* *Made by authors*

The third is legal support (it guarantees legally competent support for innovative activities). The fourth is information support. This block enables management subjects to obtain in a timely manner the necessary information related to the creation and commercialisation of innovations in the continuous value chain and the provision of consulting services. The fifth block is organisational support, which provides for the creation of optimal conditions for achieving the set goals of innovative activity and ensuring control over its implementation at enterprises.

The above blocks of the organisational and economic mechanism are implemented using socio-economic, organisational and technical, information and legal methods, which are combined into rules, methods, tools and procedures on the basis of their characteristic features. The toolkit ensures the implementation of significant processes of innovative activity of the enterprise by implementing specific management technologies.

It should be noted that no mechanism can create innovations itself; it only helps to improve the conditions for their creation in large corporations and holdings, as well as in smaller companies. The functioning of the mechanism would allow small and medium-sized enterprises to contribute to the innovative development of large associations and to acquire themselves the missing intellectual resources through the diffusion of innovation and knowledge¹.

Adoption of new technologies and innovations by the enterprise requires an objective assessment of the parameters and characteristics of its potential, which are important in carrying out investment activities by developing and implementing a new innovative development strategy. In modern conditions, each business entity needs to objectively understand the theoretical and practical foundations of the regularities of the process of forming the structure, sources of growth, methods of assessment and development of directions for the effective use of such potential. Professional awareness of these issues will enable us to objectively assess our real capabilities, develop new areas of innovative activities and create an effective strategy for innovative development².

Critical analysis of the situation has shown that changes in the situation and the achievement of significant results must be ensured, first of all, by creating a need for innovation, and then this need will lead to the necessity for intensification of innovative activities, creation of conditions for the development of new methodological tools and organisational technologies.

At the same time, an effective way to change the situation will be to complete the organizational and structural transformations of enterprises that are currently underway in the industry, with the consolidation of assets, merger and acquisition of enterprises into large integrated structures with the development of their infrastructure in the common economic space.

¹ Rodgers, E. (2003). *Diffusion of Innovations*. New York: Simon and Schuster.

² Язлюк, Б.О., Питель, С.В., Шумський, А.В. (2013). Шляхи підвищення рівня інноваційного розвитку виробництва з врахуванням регіональної стратегії. *Сталий розвиток економіки*, 1 [18], 224-230.

The successful development of shipbuilding and other branches of domestic industry largely depends on how the innovative policy aimed at building a new economy will be implemented within the Industry 4.0 concept. These successes will become more apparent when the results of production and innovation activities are almost fully reflected in the digital environment, and the transformation of knowledge into innovation and their subsequent commercialization will become routine procedures, as digital technologies will create excellent conditions for product implementation from design concept to production planning, sales and subsequent service.

These trends should undoubtedly be taken into account in the strategic plans for the development of the shipbuilding industry, therefore, taking into account the prospects of the digital economy, the intensification of innovative activities will be accompanied not only by methodological and organizational support in the creation and promotion of innovations, but also by assistance in the introduction of digital technologies at specific enterprises within the Industry 4.0 concept, including product lifecycle management from design to implementation, justification of necessary decisions. In addition, the incentive system itself must be changed, with targeted support of enterprises depending on their success in innovative activities.

In the coming years, significant efforts must also be focused on a number of scientific and methodological issues. Thus, the factors and conditions that determine the innovative development of enterprises in the industry have not yet been fully analyzed, and no definitions and concepts of the essence of the innovation potential of not only vertically integrated large and especially large companies, but even small and medium-sized companies in the shipbuilding industry have been formulated. The essentially different definitions of innovation, innovative activities, high-tech products and services, criteria for the status of enterprises and their innovation potential, and other characteristic components do not allow to unambiguously describe the procedures required for the effective operation of shipbuilding enterprises in the field of innovation. In addition, tools to stimulate innovative activities and methods to assess their effectiveness also need to be improved, especially taking into account the ranking of priorities in the competitive environment.

Summarizing the above, it can be stated that these issues and problems require a more detailed development of the theoretical basis and methodology of innovative development of both enterprises and the shipbuilding industry as a whole.

It should be noted that large organizational and economic structures that have sufficient resources to carry out innovative activities often suffer from the low receptivity of their management to innovations, and the main drivers of innovative activity in the shipbuilding industry are smaller high-tech, knowledge-intensive enterprises. For example, small innovative enterprises established at higher education institutions, as more mobile enterprises, could provide the most significant results in innovative activities for the shipbuilding industry.

Conclusions. Since the successful development of the shipbuilding industry is influenced by a number of systemic problems, to solve them the state must ensure the impact on the development of the industry: both directly in the form of orders for products and indirectly in the form of legislative preferences to reduce the tax burden, “cheap” loans, erection on legislative barriers for importers, etc.

The implementation of proposals within the organizational and economic mechanism for managing the innovative activities of shipbuilding enterprises will make it possible to make a qualitative leap in their activities, change relations with suppliers and consumers, coordinate the work of all functional divisions of enterprises and significantly improve the efficiency of their activities. At the same time, the mechanism itself can be considered as an enterprise development orientation using promising marketing solutions provided by the digital economy, and is able to ensure the formation of progressive ideas and growth of competitive advantages.

Intensification of innovative activities must be accompanied not only by methodological and organisational support in creating and promoting innovations, but also by assistance in implementing digital technologies at specific enterprises within the Industry 4.0 concept, including product lifecycle management, resource planning and product manufacturing.

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