MANAGEMENT OF COMPETITIVENESS IN SUPPLY CHAINS AND THEIR INNOVATIVE DEVELOPMENT UNDER THE CONDITIONS OF DIGITALIZATION OF AIC ENTERPRISES

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Abstract. The development of the world community occurs so quickly and so unevenly that it is too difficult to monitor the changes taking place in it, and even more so to study and take into account in practical application. Without such monitoring of changes in social development, and even more so in its main component – the economy, it is impossible to understand the consequences of the changes themselves and the direction of further development. The changes at the global level that are taking place in our time also require a detailed study and the immediate implementation of the obtained results in the economic process in order not to be aloof from these changes and not to lose their place in the already occupied niche of economic development. In these conditions, there are several priorities for the study of the current economic situation: one of the first priorities is the development of the agricultural sector with climatic and migration changes, the production of alternative energy sources, changes in preferences in people's nutrition priorities, etc.; the following: rather high competitiveness among manufacturers, which prompts them to reduce the price of products (not always to the benefit of consumers in terms of quality characteristics); the delivery routes of all types of products, already established for decades, were disrupted by the unexpected impact of the COVID-19 pandemic, and later also by military actions on the territory of Ukraine. These factors have had a significant impact on global markets and should be studied by

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both scientists and practitioners to find new ways, methods, and tools for managing logistics supply chains, using effective competitive measures, first, with the involvement of developments in the field of digitization of processes. Innovative processes should play a special role in this direction, because only thanks to innovations and innovative technologies it is possible to quickly and effectively level the situation and avoid unpredictable negative consequences of the influence of today's challenges.

The purpose of the study is to substantiate the theoretical and applied principles of managing competitiveness in supply chains and their innovative development under the conditions of digitization of enterprises of the agro-industrial complex in modern crisis conditions created in Ukraine and the world. The subject of the study is theoretical, methodological and practical aspects of competitiveness management in the use of supply chains for the purpose of economic development, taking into account the processes of digitalization of the economy.

Methodology. The following scientific methods were used in the study: monographic (when studying the theoretical provisions of competitiveness management processes occurring in supply chains); statistical (when analyzing the dynamics of innovation costs in the structure of Ukraine's GDP, the dynamics of the share of research and development costs in GDP, Ukraine's rating in the system of innovation evaluation indicators); methods of economic and statistical research (statistical observation, comparison, matrix, tabular, graphic) – when developing visual illustrations; abstract-logical – for summarizing research results and formulating research conclusions.

Results. The place and role of competitiveness management in supply chains and their innovative development under the conditions of digitization of agro-industrial complex enterprises in modern crisis conditions are analyzed.

Practical implications. Measures are proposed to promote the development and improvement of supply chains in Ukraine to ensure the effective use of logistics processes in managing the competitiveness of enterprises.

Value/originality. Participated in the development of methods and models of supply chain management in the context of the digitization of the economy in terms of managing competitiveness in supply chains.

The issues of innovative development of agrarian enterprises as a basic platform for the formation of supply chains have been studied; modern globalization processes and their impact on the innovative development of Ukraine in conditions of digitalization; the problems of effective functioning of supply chains in the grain product sub-complex on the basis of innovative support are investigated; the influence of globalization on the management of supply chains and the competitiveness of agro-industrial complex enterprises in modern economic conditions of Ukraine and the world is analyzed. The research is based on the tasks of applied research on the topic: «Management of supply chains in the conditions of digitalization of the economy», state registration number 0121U109445. In the modern conditions of development of the Ukrainian economy, with insufficiently developed support infrastructure, enterprises can't make a significant impact on the innovative activity of the economy. Currently, the specific weight of innovative goods, works, and services of economic entities in the total volume is about 10%, and the specific weight of enterprises that develop and implement technological innovations in the total volume does not exceed 6%, therefore of particular importance and relevance in the solution to the problem of strategies for increasing the innovative activity of the enterprise is also studied.

1. Introduction

The research conducted in today's such a rapid development of the economy cannot be fully covered, taking into account all its vectors and changes, therefore the task of our study is to analyze the trend and individual directions, in particular, in the management of competitiveness in supply chains, which, in our opinion, is quite significant in the general vector of changes in the economy. It is important to note that the indicated direction of research cannot develop without applying the achievements of innovative development under the conditions prevailing in the modern global digital world, where digitization is one of the main priorities of the modern economy. Considering the circumstances that the products of agro-industrial complex industries and enterprises are vital for people, as a source of food, raw materials for light industry, fodder for the dominant number of animals, etc., the industry should develop in any circumstances, regardless of pandemic or military actions, therefore for our research, we

chose this direction, forming the topic: competitiveness management in supply chains and their innovative development under the conditions of digitization of agro-industrial complex enterprises.

In the process of research, the essence of innovative development of the enterprise was formed. It was determined that it is appropriate to consider the innovation process as an object of management and analysis both from the point of view of the process and from the point of view of the result. A decrease in the share of innovation costs in Ukraine's GDP is shown. Various approaches to the classification of factors of innovative development of enterprises are considered. Factors of innovative development are traced at the micro-, macro- and global level. The factors of innovative development, which include financial support, personnel support, technical and technological support, marketing support, organizational and managerial support, are analyzed. All this constantly and significantly affects the implementation of innovation in logistics processes, in particular, the implementation of the obtained results in the operation of supply chains of agricultural products, including the products of the grain sub-complex to their destination in all parts of the chain.

It was determined that the determination of the direction of innovative development depends not only on the motivating motives of the enterprise, but also due to the comparison of the benefits received by the consumer when using innovative products, its price, by comparing the effect of the introduction of innovations and the invested innovative capital, it is important for us to understand not only the level of effect, but and have the result of its rapid implementation in the industry, which cannot be obtained without modern methods, tools and ways of using the digitization of these processes. It was revealed that the further development of agricultural production, increasing the competitiveness of agricultural enterprises is possible only under the conditions of transition to an innovative model of development. The main basic tool of such development in modern conditions is, among other things, economic and mathematical modeling, where the main factors are the digitalization of the mentioned processes.

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The work also explores the directions of innovative development of Ukraine. Today, innovation is one of the factors in the development of the economy at all its levels, the growth of its productivity and competitiveness. is based in the modern social world only on the introduction of digitization processes, because it is not possible to calculate even elementary indicators by ordinary economic methods.

We have identified indicators that negatively affect the rating of innovative development of Ukraine. It is emphasized that the implementation of an innovative model of high-tech development is a solution to the problem of the technological gap and increasing the level of competitiveness of Ukraine as a state. The problems of innovative development in Ukraine are considered, indicating the main directions and mechanisms of activation of innovative development in domestic conditions. The directions of the state's innovation policy are outlined: stimulating innovation at the state and regional levels, joining global innovation networks using digitization tools, attracting investment in research and development, improving the regulatory environment, determining priorities for innovative development at the state and regional levels, etc. It was emphasized that in Ukraine it is necessary to create an effective mechanism for the activation of innovative development, which will allow to ensure the recovery of its economy and further integration into the world economy.

In the course of the research, we showed that the question of the impact of innovations on the effective functioning of the grain product sub-complex is also relevant. That is, the purpose of the conducted observation is research, systematization and grouping of innovations based on the views of domestic scientists, analysis of existing modern innovations as they can affect the object of our research, and generalized classification of innovations according to various characteristics, the process of variation provision, development of regulation, organizational and economic features of the formation and effective functioning of the grain product sub-complex of Ukraine.

Grain producers on the path of modern progressive development need financial, economic and technological balance with processing enterprises and service organizations that provide material and technical support, therefore, for the effective functioning of the grain product sub-complex, it is important to study the innovative potential possessed by economic entities and detailed and a complete study of supply chains along which grain products move from the producer to its final consumer.

Along with this, the management system also plays a significant role, which will make it possible to determine options and make optimal decisions regarding the possibilities and application of innovations. In the conditions of the acceleration of the processes of global intellectualization, it is the latest technologies, and first of all the technologies for the introduction of digitalization, that become the basis that determines modern production, the forms of its organization and management, and provides opportunities for achieving competitive advantages of more successful activities of this or that business entity, determines the stages of its qualitative and effective development. The development of enterprises of the grain product sub-complex on the basis of innovation is a prerequisite for increasing the competitiveness of manufactured products, contributes to the increase of investment income, and the formation of the production, market and investment infrastructure of a specific enterprise and the complete supply chain of grain products.

The basis of the profitable development of the grain product sub-complex is the system of relationships between agricultural and processing enterprises and organizations engaged in the sale of grain and its processing products, that is, an organized system of supply chains. The mechanism of the functioning of economic relationships, as a set of forms and methods of regulation, is aimed at rationalizing the production system, achieving stable performance indicators, which provides the opportunity to involve new achievements and inventions in the activities of producers and processors of grain products in modern conditions that have developed, first of all, as a result of the global COVID-19 pandemic, and to a much greater extent – as a result of Russia's aggression on the territory of Ukraine – one of the largest suppliers of grain products in the world.

We have also determined that one of the main conditions for achieving stabilization of the economic situation in Ukraine is the development of

an innovation-oriented economy. At the same time, an important role in the intensification of innovative processes belongs to business entities that have initiative, flexibility, the ability to quickly adapt to new market requirements and can ensure more effective development and production of innovative products and their implementation, taking into account the current situation and using the possibilities of applying the advantages of logistics supply chains.

2. Innovative development of agricultural enterprises as a basic platform for the formation of supply chains

In the modern economy, taking into account its rapid development, it is not enough only to produce a large number of various products, for several decades the processes of delivering them to the consumer have been at the first level, taking into account a number of specific principles: timeliness, high quality, species diversity, seasonality, etc. It is especially important to take them into account in relation to agricultural products that are perishable, seasonal, poorly transportable, etc. If manufacturers, processors, and logisticians over the past 10-20 years have basically adjusted these processes and the peculiarity was in some nuances, then the COVID-19 pandemic, and especially the military aggression of Russia on the territory of Ukraine, sharply disrupted the established chains in the supply of products, especially food products and other products of processing of agricultural raw materials. The world was faced with the problem of immediate resolution of these issues, especially where large multinational companies are involved, the courts used air, sea, river, rail and other key modes of communication for product delivery. Against this background, the attraction of investments in all industries, including logistics, acquires new features.

At the current stage of development of the world economy, innovations and the latest technologies, which are primarily based on the principles of digitalization, are not only decisive for the economic growth of countries, but also act as indicators of the level of economic well-being of subjects of the world economy. The economic essence of the concept of transition to an innovative path of development is that, firstly, knowledge and scientific and technical progress become the main factors of economic development; secondly, it is necessary to adapt innovative development strategies to the characteristics of a specific country as soon as possible; thirdly, the

development of the infrastructure of the post-industrial society is very important for the national economy. For the economies of all countries without exception, the formation of a mechanism of innovative development is a priority task, as it serves as a source of obtaining additional competitive advantages in the world market [1].

The transformation and globalization of both the world and domestic agro-food markets actualizes the issue of innovative development of the agrarian sector in general, and agro-production enterprises in particular. The complexity of agricultural production and its features determine the use of different types of innovative technologies, the uniqueness of approaches and methods of forming a system of management of innovative processes in the industry both during production and delivery of products to consumers, i.e. logistics.

Many domestic and foreign scientists are engaged in the study of the issue of innovative development of the enterprise, the characteristics of the factors affecting it: Adamenko O.A. [2], Voloshchuk L.O. [3], Gotra V.V. [4], Egorov P.V. and Shakura O.A. [5], Zharovska N.Yu. [6], Kobrin L.Y. [7], Melnyk L. [8], Morozova S.A. [1], Rusinko M.I. [9], Sokolyuk S.Yu. [10], Utkina Yu.M. and Ostapyuk B.Ya. [11] and others. At the same time, despite significant achievements in the innovative development of enterprises, this issue requires further research using new approaches that take into account the transformations that are taking place. Today's extremely complex business conditions in Ukraine and the world require an immediate study of these processes. Therefore, as a direction of our research, we determined the analysis of the features of the innovative development of enterprises in the agrarian sphere and the factors that condition innovative development in the conditions of transformational changes in the country's economy, using tools and methods of digitalization of the economy and taking into account the factors that affect sharp changes in logistics and product supply chains to consumer.

Note that an innovation is a finished, unique solution that, with the help of scientific and technical achievements, has found its realization in the form of a new or renewed social need, the implementation of which increases the efficiency of the enterprise's functioning in the context of creating competitive advantages in order to obtain the maximum possible economic, social, environmental or other effect [12].

Voloshchuk L.O. notes that the management of the innovative development of the enterprise should be focused in two directions: the management of the actual development and the management of its innovativeness [3]. In the same work, the expediency of highlighting the key approaches of specialists to the interpretation of the essence of innovative development is determined:

– macroeconomic – from the standpoint of which innovative development is mostly identified with scientific and technological progress, and microeconomic – where innovative development appears as a set of new methods, means and ways of realizing the innovative capabilities of the enterprise;

– result-oriented – scientific result-oriented, in which innovative development is considered as the final result of scientific or scientific-technical activity, and process-in which innovative development is connected with the processes of creation, implementation, dissemination of innovations and is based on such concepts as innovative activity and innovation process [3].

Innovative development, according to Egorov P.V. and O.A. Shakura, it is a process of balanced improvement of various spheres of activity of business entities based on the implementation of scientific and technical, organizational, communication and financial and economic innovations aimed at increasing competitiveness, business activity, ensuring financial stability, liquidity and solvency of sub of economic entities [5, p. 48].

Adamenko O. [2] notes that innovative development is an enterprise activity based on the constant search for new methods and means of meeting consumer needs and improving business efficiency; development, which involves the expansion of the boundaries of innovative activity and the introduction of innovations in all spheres of the enterprise.

We agree with the opinion of Voloshchuk L.O. [3] that innovative development must be considered as an object of management and analysis from the point of view of the process and from the point of view of the result: 1) innovative development of the enterprise is a process of development due to the formation and use of innovative potential, aimed at qualitative changes in the state of the enterprise; 2) innovative development of the enterprise is a positive qualitative change in the state of the enterprise (which is reflected in the increase in performance indicators, competitiveness,

growth in market value, etc.) as a result of the implementation of innovative activities, the formation and effective use of innovative potential.

When considering the issue of innovative development of enterprises, it is necessary to pay attention to the amount of costs for innovation in Ukraine for the period 2012-2020 (Figure 2.1).

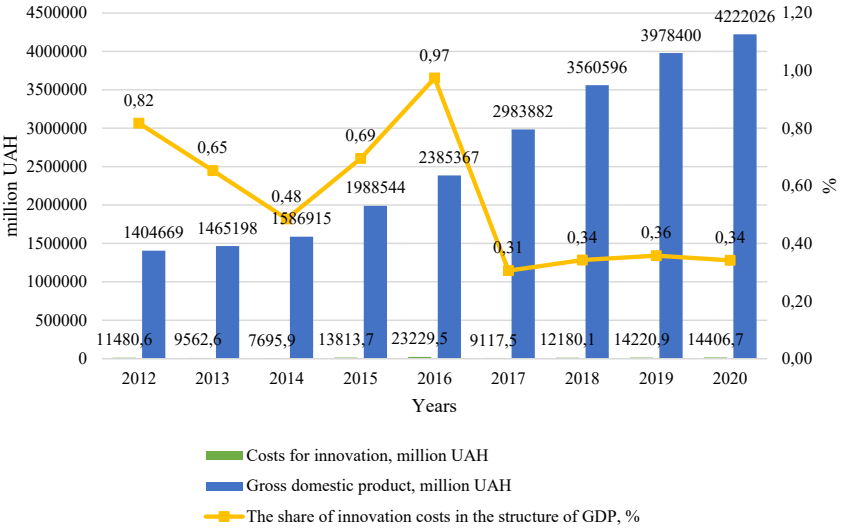


Figure 2.1. Dynamics of spending on innovations in the structure of the GDP of Ukraine, 2012-2020

Source: compiled and calculated by the authors based on data from the State Statistics Service of Ukraine [13]

As we can see, during 2017-2020, despite the growth of Ukraine's GDP, the share of innovation costs in GDP decreased, remaining at a very low level, which negatively affects the innovative development of the domestic economy.

The introduction of innovations is one of the factors contributing to the growth of the enterprise's competitiveness, the reduction of production costs per unit of manufactured and sold products, the increase of the efficiency of activity, sustainability and stability of development not only of

manufacturing enterprises, but also of those engaged in bringing products to the consumer: processing, storage, packaging, transportation, etc., that is, those included in the full supply chain of goods.

The main factors of forming the potential of innovative development of the enterprise, as noted in [8] are:

– creation of a progressive organizational management structure, oriented to work in market conditions;

– availability of strong personnel potential and energetic leadership capable of receptiveness to innovations;

– positive indicators of the enterprise's business activity, its high reputation among partners and consumers;

– introduction of competitive technologies and advanced equipment;

– achievement of high production culture;

– timely and complete provision of the necessary information about the latest achievements of science and technology in the relevant field of activity [8, p. 456].

For example, Rusinko M.I. [9] proposes to classify the factors influencing the innovative development of the enterprise according to the following characteristics:

– by belonging to the environment: external, internal;

– according to the nature of the influence: stimulating, restraining, neutral;

– by degree of formation: individual business factors, macroeconomic level factors, meso-level factors (regional, industry), micro-economic level factors;

– according to the course dynamics: static, dynamic;

– by duration of action: one-time, periodic, permanent;

– by the possibility of measurement: parametric, non-parametric;

– by content: economic, non-economic;

– according to the possibility of control: controlled, uncontrolled;

– by cause-and-effect relationships: ordinary, force majeure, force majeure [9].

Among the external factors, it is possible to distinguish: state innovation policy, scientific potential, innovations in the field of technology, the level of economic development of the state, international policy, etc. These factors become especially important in the conditions of today's economy, because

the changes that are currently taking place in it are quite fast, unpredictable, and such that they affect all globalization processes.

Internal factors include the company's development goals and strategies, innovative and intellectual potential, the availability of material and technical, organizational, and informational resources, ways and methods of processing these resources using the conditions and processes of digitalization of the economy.

Factors stimulating innovative activities at the global level include:

– communication with the global community in the framework of the implementation of innovative projects that contribute to the effective transfer of knowledge, exchange of experience and replication of innovations;

– the ability of innovative products to integrate with products and technological processes of the relevant industry.

Factors at the macro- and meso-levels determine the success of the implementation of innovation projects, the main task of which is the formation of favorable economic conditions for the influx of investments into the innovation sphere [6]. L.Y. Kobrin notes that the main factor of innovative development is financial support, which is characterized by the financial stability of the enterprise, its level of profitability and indicators of the effectiveness of innovative projects. The financial component of the innovation potential is also determined by the financial resources that the enterprise spends on the implementation of innovations.

Staff support for the innovative development of the enterprise primarily depends on the level of qualification, education, innovative consciousness of the staff, experience and work experience, work motivation of all categories of staff. This component characterizes the capabilities of the company's personnel to apply new technologies, in particular information technologies, to implement new organizational and management solutions, to develop and manufacture new products. It provides professional training of the company's personnel in accordance with the profile of its activity, which corresponds to the modern level of development of science and technology.

The technical-technological component of innovative development reflects the possibility of quickly restructuring production, reorienting production facilities and establishing economically efficient production of new products that meet new market demand. With the influence of modern factors, first of all the pandemic and military actions in Ukraine, such

points as the perfect implementation of the terms of use of supply chains as within a specific enterprise (warehouses, processing, packaging, cooling, long-term or temporary storage, etc.) become important in this operational restructuring), and beyond. In any case, for efficiency in decision-making, it is advisable to use modern methods of information processing, the main driving force of business processes and logistics service – digitalization, which implies, first of all, optimization and improvement of both internal and external communications, saving time on implementation of internal processes of both the production enterprise and logistics support, increasing competitiveness, etc.

Marketing support for innovative development in conditions of high competition makes it possible to assess the available market opportunities of the enterprise, to promote new types of products to the market. Marketing resources include such assets that provide a favorable position on the market and fruitful cooperation with the enterprise's counterparties, in particular, the image of the enterprise, a formed client base, established channels of distribution of goods, etc. The importance of marketing assets in modern conditions is growing, as they provide the enterprise with a sustainable competitive advantage in the external environment.

The organizational and management component of innovative development should ensure the effective functioning and restructuring of the enterprise in case of changes in external and internal factors. This requires the enterprise to optimize the organizational management structure in order to correctly distribute the functions, rights and responsibilities of divisions and officials, as well as to improve the innovation management system in general [7].

Ensuring the innovative component of agricultural enterprises will contribute to the growth of the competitiveness of both agricultural products and the balance and efficiency of the agricultural market in general [14].

It is a well-known fact that agricultural production in its organizational structure fulfills a double role: it is an extremely complex production within its industry, which is a complex organizational structure with its logistical connections and connections, and, on the other hand, it is the only organism that exists in the logistics network economic complex. Here, agriculture as a branch and as a component of agro-industrial complex acts as a separate link in supply chains.

As noted by T.V. Kosarev [15], until 2005 there were almost no scientific sources and publications on this issue. According to the author, the current definition of agrologistics is a part of the process in the agricultural supply chain, during which planning, implementation and control are carried out to determine how productive and efficient the flow and storage of goods (services), relevant information in the agro-industrial complex is from the point of origin to the point consumption, in order to meet the needs of consumers.

Agro-logistics is a new applied field of logistics related to the application of its provisions and methods in the field of agricultural production. In Ukraine, agro-logistics is at the initial stage of development. At the same time, the developed countries of the world – the USA, Canada, Western Europe, Australia, and other countries – have long appreciated the high efficiency of using logistic approaches in agribusiness. Today, in many countries of the European Union, government structures take an initiative role in the implementation of logistical approaches to the activities of agricultural enterprises [16].

Based on this, the directions of innovative development of agro-logistics are unique and quite complex in the process of their application in economic activity. Determining the direction of innovative development depends not only on the motivating motives of the enterprise, but also on comparing the benefits received by the consumer when using the innovative product, its price, comparing the effect of the introduction of innovations and the invested innovative capital. Provided that the integral assessment of benefits when using innovative products exceeds the price assessment, and the effect of introducing innovations exceeds the invested innovation capital, the direction of innovative development is called «comprehensive advantages». In practice, the most applied areas of innovative development are:

– introduction of energy-saving technologies and non-traditional types of energy resources;
– introduction of waste-free and low-waste technologies;
– implementation of complex information technologies;
– use of fundamentally new materials and resources;
– development and implementation of science-intensive technologies;
– training of highly qualified personnel;

– carrying out qualitative changes in the capital and financial structure of the enterprise;

– introduction of a new organization of labor and production;

– creation of a system of scientific and technological, informational, personnel, and marketing support for innovative development;

– implementation of progressive management systems [11].

According to Dumanska I.Yu. [17], the trends of agro-industrial production have a multiplicative effect on the specific features of the innovation process, which may result in an objectively determined limitation of innovative and investment activity of farmers. This state determines the objective needs for stimulating innovative activity and the importance of institutional support for the innovative process in agro-industrial production. The exit of domestic agricultural production to a qualitatively new level of development, increasing the competitiveness of the agricultural industry is impossible without strengthening the innovative component of activity, introducing advanced technologies and other scientific achievements into production. However, specific features of agriculture complicate the innovation process (Table 2.1) [17].

The presence of high risks of production activity in the agricultural sector multiplies with a characteristic feature of innovative activity – risk, as well as with the high cost of R&D, which limits the possibilities of activating the innovation process in the agricultural sector. In addition, such specific features of agro-industrial production as the diversity of regional, sectoral, technological features and the shortage of own funds, together with the riskiness of innovations, create a multiplier effect with the opposite effect, which also does not contribute to innovative activity. The reduced demand for innovations is associated with such features of agro-industrial production as the presence of small-scale enterprises, shortage of own monetary resources, low innovation potential, insufficient receptivity to innovations [17].

To ensure the balanced development of the agricultural sector of the economy of Ukraine, it is necessary to develop one's own model for the activation of innovative activities, taking into account the innovative capabilities of agricultural enterprises, increasing the motivation of all participants in the agricultural market, promoting the process of «diffusion of innovations», active involvement of the state in the legislative and

regulatory regulation of the researched area. It is appropriate to focus attention on the implementation of innovative entrepreneurship, aimed at creating innovative products, technologies and providing services, primarily based on the adaptability of the enterprise to external influences, balanced organizational and management approaches, which will ensure guaranteed innovative development in the future [4].

Table 2.1

Matrix of specific features of the innovation process in agro-industrial production

Features of agro-industrial production	Characteristic features of the innovation process				
	high risk	high cost of innovation	NDDKR is a separate stage of activity	dependence on demand for innovation	product innovations
Production risk	M	M			
Branch, regional, technological features		M	D		
Distance from scientific centers, spatial dispersion			D		
A long cycle of research works	M				
A significant share of small forms of agricultural production	M		D	R	
Lack of own financial resources	M	M		R	
Low innovative potential	M		D	R	
Low innovative demand				R	
Production of standard products					L

M – multiplicative effect, which counteracts the activation of the innovation process; D – additional need for innovation centers for the production of innovations; R – reducing the demand for innovations in the agricultural sector; L – limited innovation in agriculture

Source*: [17]*

The implementation of innovative technologies is an important task of any enterprise, which is defined as a promising direction of development that creates a favorable environment for the effective use of resource potential and the formation of competitiveness. Nowadays, in general, there are many unsolved problems of innovation implementation at the enterprises of the agrarian sector of the economy, taking into account harmonious innovative development. In order to ensure the harmonious and innovative development of the agrarian sector of the economy, it is necessary to concentrate capital on priority areas of development, in particular, education, science, progressive technologies, entrepreneurial activity on the market of science-intensive products. Innovatively active enterprises within the agrarian sector are able to ensure the organization of competitive production of products, which is possible due to the concentration of investments, especially in the field of human capital development, which is the basis for the development and implementation of new organizational, technological, economic, and environmental knowledge. It is also important to reorient investment to the development of the agrarian sector of the economy, which currently needs to be revived as soon as possible on a new technological basis, in particular for the creation of additional jobs and competitive, harmonious agricultural and industrial production [10].

Summarizing the above, we note that in today's extreme economic conditions in Ukraine and the world, the feature of agro-innovations is not only the creation of fundamentally new products, but also the systematic introduction of innovative elements into the business processes of agricultural production, which involve the improvement of logistics, especially in terms of chains of movement and supply of products both within the enterprise and in the process of bringing it to the consumer, reducing the cost of production, strengthening control, increasing quality, service, etc. One of the mandatory elements of solving the tasks is the use of digitization tools, which cannot be done without in the modern conditions of economic development.

Further innovative development of domestic agricultural enterprises is not possible without improving the institutional environment, which requires the development of a flexible regulatory system capable of timely adaptation to new conditions that are constantly changing in the world economy, especially in Ukraine, based on the use of the latest information

technologies, including – digitization of the economy. As a result of such implementation and one of the conditions for further increasing the competitiveness of agricultural enterprises and logistics supply chains is their transition to an innovative development model.

3. Modern globalization processes, their influence on the innovative development of Ukraine in conditions of digitalization

In the modern economic environment, the geographical parameters of the location of enterprises are not a factor due to which enterprises of any part of the globe cannot cooperate, this process has received the name – globalization, that is, the development of the economy, society, trade, finance, information, labor and political relations, the latest technologies within the entire global community. The development of such relationships began a long time ago, the process of formation was mainly progressive, with the possible exception of certain regions or industries. Having achieved considerable success in its development, the process of globalization seemed to have no limits and obstacles. However, taking into account the principles of cyclicality in the development of all components of society, an almost unpredictable situation occurred that had a significant impact on this progressive movement, firstly the COVID-19 pandemic, which suspended the development of the world economy in many of its directions, and from February 2022 – the military Russia's aggression on the territory of Ukraine, which also made significant adjustments to the economic development of the world economy.

The evolution of the world economy has reached the stage in its development when the systems of social reproduction of various countries and states with the help of the international division of labor and international economic relations are transformed into a single global geo-economic space, in which the process of globalization currently plays a leading role. It is he who acts as a decisive factor in the general consolidation of economic, financial, political, socio-cultural, scientific-technical and ecological elements of national economies. At the same time, the degree of participation of some countries in the process of globalization of the world economy differs sharply from others, which contributes to the formation of cardinal differences. Today, domestic enterprises work in conditions of high economic and political uncertainty caused by Russia's military invasion of

Ukraine. In the IMF report «World Economic Outlook: War Sets Back the Global Recovery» [18], which was published in April 2022, stated that the world economy at the beginning of 2022 gradually began to recover, but has not yet fully recovered from the COVID-19 pandemic, but the forecasts have worsened, primarily due to the Russian invasion of Ukraine, which caused a tragic humanitarian crisis in Eastern Europe, and sanctions against Russia. In addition to its immediate humanitarian consequences, the war is seriously hampering the global recovery, slowing growth and further exacerbating inflation. The report predicts that in 2022, both Russia and Ukraine will experience a significant reduction in GDP. The severe collapse in Ukraine is a direct result of the invasion, the destruction of infrastructure and the exodus of the population.

Paradigmatic shifts and transformations of global economic processes in modern conditions are not only qualitative, but also systemic in nature. After all, science, technology and innovation, which are decisive for the development of modern society and decisive for the acceleration of innovation processes in developed countries, are not limited only to the level of the national economy. We observe the spread of multidirectional and non-linear trends in the world. During the last decades, numerous changes are taking place related to all key parameters of the economy and society. This led to the activation of the innovative reorientation of business entities due to the development of new technologies, the introduction of the latest achievements of science and technology [19].

In the context of intensifying competition in world markets, there is a growing interest in innovation, and the strategic advantages of globalization include the exchange of technology and innovation.

The works of many scientists are devoted to the study of innovations and innovative development: Zh.V. Harbar, V.M. Geitsya, I.O. Ishchenko, O.S. Kvasha, O.V. Kovalenko, A. Kovpaka, O.O. Korogodova, V.L. Smyesova, O.P. Khayetska, L.M. Cheh and others. Among the researchers of globalization and innovative development in the conditions of globalization, the works of M.M. Bohun, O.M. Dyba, S.O. Mashkantseva, K.S. Omelchuk, etc. are interesting. Studying the works of scientists and researchers, attention is focused on the fact that the significant interest of specialists in the researched topic confirms its relevance. However, in the conditions of high uncertainty and dynamic changes, which characterize

the current state of the national and world economy, it is urgent to study the innovative potential of the economy of Ukraine in the languages of further globalization. The issues of product delivery for various consumers come to the fore, i.e. logistics, the use of supply chains, as well as fast ways and methods of processing the large amount of information received, i.e. the use of digitization processes to solve the tasks set in the conditions of researching the trends of innovative development, first of all, domestic economy in the conditions of globalization processes.

An important component of the reconstruction of the economy of Ukraine at the current stage is the activation of investment and innovation activities [20]. From a long-term point of view, the pace of globalization and scientific and technological progress are interdependent, that is, for many years there has been a cyclical process in which new technologies act as a basis for economic and social globalization. However, globalization processes provide flows of human resources, goods, capital and, above all, ideas and knowledge, thereby allowing to achieve unprecedented rates of technological change. It is the innovative product that can rightly be recognized as the one most exposed to the influence of globalization. The globalization of scientific technologies is caused by the significant pace of development of innovations with the technical assistance of global networks that combine research centers of state and private subordination, as well as through the mediation of standardization processes. The development and support of international innovation networks, the joint scientific and technical activities of many countries and their organizations within the framework of not only private interest, but also the general economic and scientific and technical development of the whole world, is the most important direction of the development of globalization in today's conditions. An essential feature of innovations is the almost instantaneous spread of technologies on a global scale and the simultaneous reduction of the duration of the production cycle and the introduction of technological innovations [21].

Using the assets of large global companies, scientists, and practitioners in the development of these issues, there is an opportunity to introduce these assets into business processes, and given today's globalization relations, also into the processes of logistical connections, where the key is precisely the connections in supply chains. A large share of innovation is also linked to and used by supply chains.

In the modern economy, the lion's share of innovations of enterprises is directed to the improvement and improvement of production technologies, fixed assets, which leads to a decrease in the labor intensity of the performed operations, saving materials, mastering new technological processes and, as a result, to the formation of sustainable competitiveness of products. Thus, enterprises focus on the technological rearmament of their capacities, maximum automation of production processes. The improvement of the quality of goods is achieved due to progressive methods of high-precision processing of parts, automation of the production of the final product, during which the main management and control functions are transferred from humans to devices and automated equipment. It is because of this that significant development of control and diagnostic systems of manufactured products is taking place [22].

Increasing the quality characteristics of products in this way during production forms the basis of high-quality and timely service to consumers in the process of delivering the received products to the consumer. Quality products, as a rule, are better preserved during transportation, loading and unloading operations, changes in the temperature regime, etc., which is essential in various links of supply chains.

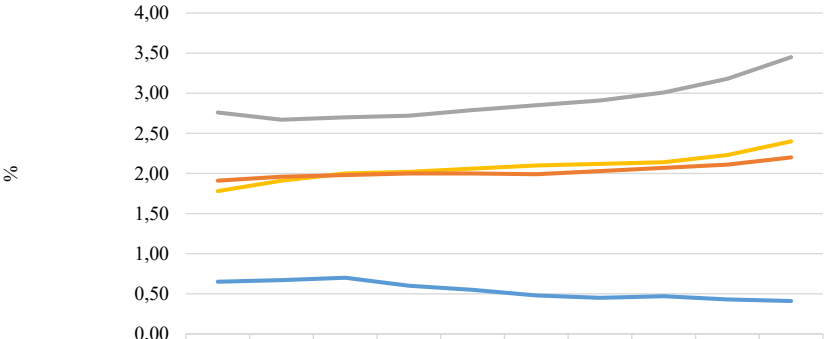
The implementation of innovative technologies is an important task of any enterprise, which is defined as a promising direction of development that creates a favorable environment for the effective use of resource potential and the formation of competitiveness [23].

The share of research and development costs in GDP is one of the indicators characterizing the country's innovative development (Figure 3.1).

In Ukraine, the share of costs for the implementation of the NDR in GDP over the past ten years has had a negative trend, so in 2020 the share was 0.41%, which is 38% lower compared to 2011. The indicator of the share of costs for the implementation of the NDR in the GDP in Ukraine is significantly lower compared to the member countries of the Organization for Economic Cooperation and Development (OECD), where the indicated indicator is much higher and growing dynamically. In the future, the reduction of the specific weight of the costs of implementing the NDR in GDP has a negative impact on the competitiveness of the economy and its growth.

For a better analysis of the state of innovative development of Ukraine in the global dimension, it is advisable to refer to the rating of innovative

development. According to the data of the annual report «Global Innovation Index 2021» (GII) [26] in 2021, Ukraine ranked 49th among 132 countries (Table 3.1).



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ukraine	1,78	1,91	2,00	2,02	2,06	2,10	2,12	2,14	2,23	2,40
European Union	2,76	2,67	2,70	2,72	2,79	2,85	2,91	3,01	3,18	3,45
USA	1,91	1,96	1,98	2,00	2,00	1,99	2,03	2,07	2,11	2,20
China	0,65	0,67	0,70	0,60	0,55	0,48	0,45	0,47	0,43	0,41

Figure 3.1. Dynamics of the share of expenditures on scientific research and development in GDP in 2011–2020, %

Source: calculated by the authors based on the data [24; 25]

Table 3.1

Ranking of Ukraine in the system of innovation assessment indicators in 2019–2021, place

Indicators	2019	2020	2021	Change of location, +/-
Global innovation index	47	45	49	-2
Introducing innovations	82	71	76	6
Results of innovative activity	36	37	37	-1

Source: built by the authors from the data [26]

According to GII, Ukraine fell 2 places lower compared to 2019, and 4 places lower compared to 2020. According to the results of innovative activity, Ukraine ranks 37th, having fallen 1 place compared to 2019. According to the introduction of innovations, Ukraine ranks 76th, rising

for 6 units. Ukraine is among the top three innovative economies among lower-middle-income countries, along with Vietnam (44th place) and India (46th place).

The global innovation index is calculated based on 81 indicators, which are grouped into 7 groups based on input and output innovation resources (Figure 3.2).

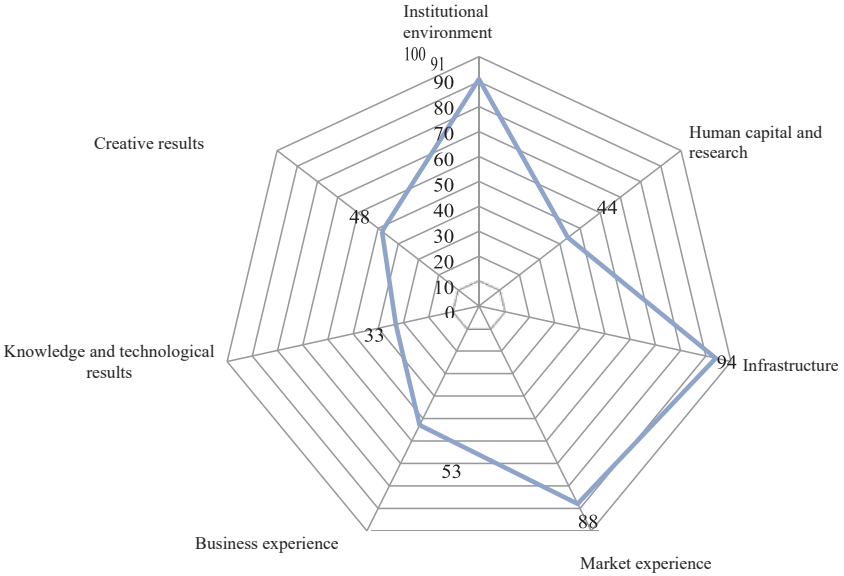


Figure 3.2. Positions of Ukraine by groups of innovative resources in GII in 2021, place

Source: built by the authors from the data [26]

Such groups of innovative resources as knowledge and technological results, human capital and research, creative results have quite high scores and, accordingly, have a positive impact on the GII of Ukraine. At the same time, in the groups of institutional environment, infrastructure, and market experience, there are indicators that negatively affect the innovation environment in Ukraine, in particular, such indicators as: political instability, solvency problems, attraction of investments, including foreign ones,

general infrastructure, microcredit, market capitalization, etc. The decrease in Ukraine's rating indicates a decrease in its innovative potential.

Ukraine is aimed at economic growth with various vectors, and one of the promising forms of development is an innovative concept. The strengths of the mentioned concept are: innovative potential; high quality of education; demand from Ukrainian business, opportunities for introducing new innovations. Weaknesses: reluctance of entrepreneurs to take risks; insufficient level of marketing communications; a big gap between supply and demand. Ukraine seeks to stimulate innovation in already existing companies, support the development of new startups [27].

Analyzing the data of recent years, especially 2020-2022, it is worth noting that all economic indicators, including competitiveness indicators, were affected by factors, the value of which is difficult to assess immediately, the method of their determination is either not defined, or has significant errors. We are talking about the impact of COVID-19 and military operations in Ukraine. Since Ukraine is a European country with a very extensive supply network of both its products and transit for products produced by other countries of the world, it is almost impossible to determine the very negative impact of these factors, but it is obvious that their role is significant.

Since the logistics system exerts a complex influence on the entire commercial activity of the enterprise, it changes approaches to the organization of production, financial, investment activities, and also affects the information and communication sphere. Rational management of logistics allows you to optimize key operations, rationally use resources, increase indicators of profitability, solvency and business activity, quality of services and goods for consumers [28].

Modeling of logistics business processes has significant advantages compared to traditional approaches based on improving the quality of work and providing services, as it allows you to reflect the company's activities from several significant positions:

1. Stages that reflect the model of the main type of activity, which allows the manager to understand the requirements for completing each of the stages and moving on to the next.

2. Parameters of resources at the input and output, which accompany the description of the initial and transformation state.

3. Quantitative and qualitative composition of costs that form the cost of each process (product type, cost center), with the identification of the most and least profitable.

4. Characteristics of the management decision at each stage of the implementation of the main logistics procedures and technologies.

5. Regulation of the time for the execution of each stage, which is essential for certain types of activities and management processes [28].

We agree with the opinion of Kovpak A. [29] that the competitiveness of Ukraine in the world market directly depends on the strategy of innovative development and functioning of high-tech enterprises. Innovation-oriented orientation will become possible thanks to: systemic changes in the methods of state regulation of the development of the economic and educational spheres; accelerated pace of technology development; formation of innovative culture and new scientific institutes. Therefore, the best solution for overcoming the technological gap and increasing the level of national competitiveness is the implementation of an innovative model of high-tech development of the state.

In the conditions of inefficient state administration and uncertainty, the planning horizons of entrepreneurs are shortened, and therefore innovative projects lose their attractiveness for them. Violation of intellectual property rights is a significant obstacle to the innovative development of enterprises. There is a problem with the implementation of guarantees that should be provided at the legislative level. There is no mechanism for protection, correct state response to warning, detection, and prosecution of violators of this right. Among the problems, one can note the lack of transparency, the complexity of the functioning of Ukrainian commodity markets. Investors face difficulties in obtaining objective and operational information about market conditions. There is a kind of stimulation of the transfer of competitive Ukrainian technologies abroad [30].

Kvasha O.S. [31] defines the main necessary directions and mechanisms for the activation of innovative development in national conditions, using the world experience of innovative transformations, which should be borrowed by Ukraine: an effective state innovation policy, i.e. the choice of the type of state innovation policy taking into account the strategic goals of the state to ensure the implementation of an innovative development model; development of the national system of implementation of scientific

and technical achievements thanks to the mechanism of creation and implementation of scientific and technical programs («education – science – technology – industry»); creation of a mechanism for the interaction of business, science and government, which involves the formation and development of an extensive system of institutional formations; development of legislative and regulatory mechanisms for innovation management; development of state venture capital funds and venture business; further development of innovative structures of the regional type and creation of preferential conditions for their functioning; to activate the process of the cluster approach to the implementation of innovative activities (organization of networks of clusters located in different regions of the country) [31].

There is no doubt about the fact that one of the factors of growth of competitiveness and efficiency of the economy at all its levels is the introduction of innovations. A clear innovation policy of the state is needed, which should include stimulating innovation at the state and regional levels, joining global innovation and information networks, attracting investment in research and development, improving the regulatory environment, determining the priorities of innovative development at the state and regional levels, especially in the areas, which determine logistics support, including product supply chains, etc.

Increasing the competitiveness of products, ensuring long-term and sustainable economic growth, increasing the ability to respond to changes in the external and internal environment in the conditions of a market economy, through active innovation are the most pressing issues for enterprises today. Solving these problems necessitates the formation of a mechanism for the innovative development of enterprises.

At the same time, we consider the mechanism as a set of principles, methods, tools and functions of managing innovative processes, which ensure the growth of innovative activity and the ability of the enterprise to change. In accordance with the dynamics and challenges of the external environment, there is a need for such a mechanism that would allow to update and transform all elements of production and management, but, first of all, to mobilize the main resource of modern business – human capital, knowledge and creative abilities of the company's personnel.

So, we can state that globalization opens up opportunities to overcome the technological gap and introduce innovations to increase the competitiveness of the national economy. The decrease in Ukraine's rating indicates a decrease in its innovative potential. In Ukraine, it is necessary to create an effective mechanism for the activation of innovative development, which will allow to ensure the recovery of its economy and further integration into the world economy.

4. Effective functioning of supply chains in the grain product sub-complex based on innovative support

The grain product sub-complex of the country is an industry whose production provides solutions to a large number of issues in a number of industries both in Ukraine and the world. These are food products supplied to dozens of countries in addition to Ukraine, these are jobs provided by the industry in the agro-industrial complex of Ukraine and the world; fodder for a large number of farm animals and poultry, and animal world outside the agro-industrial complex; this is a large financial income, including currency, for the country; it is, after all, an industry that provides a large army of logistics companies engaged in transportation, transshipment, storage, drying, processing and a large number of other necessary works.

Based on the above, the effective functioning of supply chains in this industry can only be based on innovative provision, the implementation of research and development, the use of modern technologies, primarily digital technologies, which will make it possible to increase the efficiency not only of this industry, but of a large number of related and tangential to her.

The problems of the development of the grain product sub-complex were reflected in the works of a very large cohort of scientists of Ukraine and the world, we (among the large number) will note those who have studied this topic in more detail: Gridin O.V., Demyanenko S.I., Kvasha C.M., Kyrychenko V.V., Tymchuk V.M., Kot O.V., Kolodiychuk V.A., Melnyk L.L., Pohrishchuk B.V. etc.

Among the main measures of effective development of the grain product complex on the basis of innovation, the following should be singled out: the introduction of modern innovative projects in the production and processing

spheres; development of new innovative approaches that would ensure effective development of promising innovative solutions; reorganization of enterprises based on the application of the latest technologies of competitive equipment and; activation of internal sources of growth, expansion of production and sales on the domestic market of domestic products.

Based on the research indicators, the current state of the grain industry in the USA and EU countries is a direct result of the effective use of the economic mechanism of state support for grain production and regulation of its market, which includes administrative, legal, economic and organizational complex measures, the determining factors in the system of which are precisely economic.

The organizational and economic mechanism of investment activity should be considered as a system of economic, managerial and regulatory actions, methods and processes capable of influencing investment processes and ensuring the achievement of set goals. Its driving force is formed in the process of interaction of such elements as: management, planning, state regulation and legal support and legal regulation, the influence of which determines the results of activity.

Reflecting the results, implementing innovations in increasing the volume of sales, reducing the cost of production, capital equipment and labor productivity, increasing the profitability of work and other indicators of the activity of agricultural enterprises, as well as the socio-economic development of territories.

The essence of the development of innovations in various branches of the national economy does not contain discrepancies. However, in the agro-industrial complex and especially in agriculture, the nature and main directions of this development differ significantly.

The features of the formation and development of the innovation process in agriculture include the following:

1) significant regional differences in natural and climatic conditions and production specialization;

2) the variety of types of produced agricultural products, products and their processing, the difference in the technology of production, maintenance and feeding of agricultural animals;

3) the difference in the periods of production of specific types of agricultural products and products.

4) a wide variety of types of production according to different organizational and legal forms and forms of ownership, sizes;

5) high dependence on production technologies in agriculture and on natural and climatic conditions, conditions of road and transport networks, remoteness from supply centers and product sales markets;

6) isolation of agricultural producers, insufficient knowledge of information and consulting services and organizations that produce technical and scientific products;

7) insufficient and sometimes low socio-educational level of agricultural workers;

8) the absence of a clear economic mechanism for the transfer of scientific achievements to agricultural and commodity producers and, as a result, a significant lag behind the industry in mastering innovations in production [32].

The main goal of innovations in the agricultural sector is to ensure the environmental friendliness of agricultural production.

Taking into account the requirements for scientific classification, a set of signs of innovation was developed, which allows, in the opinion of scientists, to rationally organize innovative activities in agricultural enterprises. the classification of innovations is presented in the Table 4.1.

According to the subject and scope of application in agriculture, it is advisable to distinguish 8 types of innovations (Table 4.2).

The effective mechanism for ensuring innovations of a grain production enterprise is based on a system of factors characterized by:

1) the external environment – input (resources) and output of the system (products), communication with the external environment;

2) internal structure – a set of interdependent resources that are provided due to the implementation of investment projects and acceleration of circulation in the system.

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Table 4.1

Classification of innovations in agriculture

A sign of classification	Type of innovation
By scope of application of innovations	technical - technological - biological - chemical - economic - social
The degree of innovative novelty	for the country - for the region - for the region - for the industry - for the enterprise
Changes being made	- improving - modification
Realizations by form	- in the form of a product - in the form of a process
By direction of use	- profitable - non-profit - offensive - protective - destructive
By periods of implementation	long-term innovations - medium-term innovations - short-term innovations
By origins	- internal - external
For funding sources	- own funds - budget funds - credit or loan funds

Source: developed using [33]

At the expense of the economic mechanism of management and stimulation of the development of innovative processes, it contains financial, credit, investment, price, insurance policy and stimulation of the reproduction of the material and technical base of the sphere of innovative activity.

The structure of the innovation system consists of two subsystems: the state innovation subsystem of the agricultural sector and the innovation

subsystem of the non-state sector. Each of these subsystems includes scientific and educational organizations, their associations, unions and clusters, financing, lending, and material and technical support infrastructure, consulting centers and information and consulting services, accounting infrastructure and intellectual property management.

Table 4.2

Classification of innovations by subject and field of application in agriculture

A sign of classification	Type of innovation
Biological	- new varieties and hybridization of agricultural plants; - new breeds of animals and birds; - creation of animals and plants resistant to diseases and pests, adverse environmental factors
Technical	- use of the latest types of equipment
Technological	- new technological methods of processing agricultural crops; - new technologies in keeping and caring for animals; - conditioned systems of agriculture and animal husbandry; - new resource-saving production and storage technologies; - environmentalization of agriculture.
Chemical	- new fertilizers and their application and use systems; - new means and methods of plant protection;
Economical	- the latest forms of organization, management and planning; - new mechanisms of innovative development of the enterprise
Social	- ensuring favorable conditions for life, work and recreation for the population in this area
Innovations in management	- new forms of work organization and motivation; - new methods and mechanisms of personnel management
Marketing	- access to new unoccupied market segments; - improvement of product quality; - new product distribution channels

Source: compiled by the authors based on the processing of literary sources [32; 34; 35]

The development and formation of an innovative system of the grain product sub-complex is possible only if the organizational and legal form of its functioning is determined. Due to the fact that almost all of its structural elements are separate subjects of innovative activity, there is a need to establish their effective interaction [36].

Interaction is achieved under the conditions of unification of enterprises, scientific and educational institutions, services that organize the interaction of science and production, consulting and brokerage organizations, as well as economically connected in a single scientific and production system of cluster-type consumers, which ensures expanded reproduction of products.

Analysis of indicators of the economic development of enterprises indicates a low level of intensity of innovation processes and a reduction in the scope of innovation implementation.

Studies indicate that only about three percent of agricultural enterprises use modern progressive technologies.

In the conditions of increased competition, domestic enterprises are unable to work effectively without a developed material and technical base, and the actual terms of operation of fixed assets are 2-3 times longer than the normative ones. Summing up, we should note that grain production has always been and will remain for a long time one of the main branches of the agrarian sector of our country's economy, which ensures not only the food security of the state, but also the export of food products, which is the source of foreign exchange funds for the budget [33].

Not only the supply of the population depends on the development of this industry. The development of this industry depends not only on the supply of the population with food products of plant origin, but also with livestock products. For this, there are all the necessary conditions, namely: fertile soils, favorable climatic conditions, climatic and geographical location of the domestic and foreign markets, the presence of sea ports, etc. For this, there are all the necessary conditions, namely: fertile soils, favorable climatic conditions, climatic and geographical location of internal and external markets, availability of sea ports, etc.

At the same time, the efficiency of the production of grain crops is insufficient due to a number of unresolved problems related to: logistical and technological support of the industry; the imbalance of the domestic food market; imperfect legislation; lack of an effective state policy; opaque pricing, etc. [34].

All the previously mentioned problems are characteristic not only for the agricultural sector but also for most branches of the national economy, however, the significance and importance of grain production for the state requires their priority solution right here, since further ignoring of these

problems can cause an increase in crisis phenomena that will lead to destructive processes that will certainly affect other related areas and the economy of the state as a whole.

5. The impact of globalization on supply chain management and the competitiveness of enterprises

Global trends of globalization and digitization in industrial production determine the use of the latest achievements of science and technology by domestic enterprises. The experience of the development of the post-industrial economy of Western countries has shown that the optimal way of salvation is the transition to an innovative type of development of the national economy.

An innovative type of development will allow to increase the efficiency of production at enterprises, which will increase the degree of satisfaction of the needs of consumers and society, and the defining thing is that it is based on a purposeful and continuous process of finding, preparing and implementing innovations or innovations. Thus, thanks to the innovative type of development, the process of sustainable development of both enterprises and the economy as a whole emerges.

The choice of an innovative type of development will allow enterprises to make a breakthrough leap, which is based on orientation to the process of production of knowledge-intensive, competitive products, the formation of innovative structures and the development of innovative technologies based on them.

The innovative economy is characterized by the interconnected development of the production, scientific and technical, financial and social spheres of services. However, at the same time, a condition must be met that will ensure a socially oriented technological breakthrough, when the state becomes the backbone.

The main features of development for the economic system are formed by the concept of this type of economy:

a) fruitful coexistence of vertically integrated structures, strategic alliances and growing diversification of organizational forms of entrepreneurial activity;

b) significant acceleration (the life cycle of products has decreased, time for the introduction of new types of high-tech products also in all industries – low-tech, medium- and high-tech);

c) cumulativeness and continuity (the prospect of development of enterprises and industries is a function of the scientific and technical level they have already reached).

A number of researchers believe that innovation is the result of an interconnected process; it is not only the timely introduction of the latest technologies, but necessarily ideas and methods with the help of modern processes or through the improvement of existing ones. That is why, at this stage, the innovative type of development of industrial enterprises in our country is at an initial stage.

However, we realize that along with the improvement of technical and technological innovations, it is necessary to create an appropriate organizational and economic mechanism at enterprises that supports the innovative type of sustainable development under the conditions of recognition that the tasks of the transition to the innovative type of sustainable development include the formation of modern mechanisms of interaction of various structures , where the processes of self-organization, which require the support of the corresponding innovation policy, perform a significant function.

Enterprises must be innovative due to organizational and economic modernization, which is the basis of any changes, that is, the ability and willingness to create, transform, produce, change, renew, apply innovations and adjust economic relations, methods and forms of management, etc. Therefore, the modernization of the enterprise is a continuous systemic process that involves complex changes (of all components of any system) in the direction of the development of the activity of this enterprise.

Therefore, there is every reason to claim that modernization is the driving force behind the development of society and the state. It has been proven that the organizational and economic modernization of enterprises provides maximum profit at minimum specific costs, ensures the efficiency of use of production facilities, maximum profitability, dynamic increase in profit per employee, increase in staff wages, increase in the number of employees due to diversification of production.

Let’s dwell on some points of determining the strategy of increasing the innovative activity of enterprises, taking into account the modern trends in the development of the field of grain production. In the modern conditions of the development of the Ukrainian economy, especially the agro-food

sector, with insufficiently developed support infrastructure for both product manufacturers and those organizations that bring products to the consumer, which is, first of all, the logistics industry, enterprises cannot significantly influence the innovative activity of the economy. At present, the share of innovative goods, works, and services of business entities in the total volume is about 10%, and the share of enterprises engaged in the development and implementation of technological innovations in the total volume does not exceed 6%. Therefore, solving the problem of strategies for increasing the innovative activity of the enterprise, both in the production sphere and in the logistics sphere, becomes important.

Despite the fact that the enterprise's activity is associated with the instability of economic conditions, changes in the political situation, complex relations between competitors and consumers, the main strategic direction remains innovative activity, which is a guarantee of the competitiveness of a modern enterprise. Therefore, theoretical substantiation and development of practical recommendations for managing strategies for increasing the innovative activity of the enterprise is key in our research.

In the world economic literature, the concept of «innovation» is interpreted as the transformation of potential scientific and technical progress into real, embodied in new products and technologies. The issue of innovations in Ukraine has been considered for many years within the framework of economic studies of scientific and technological progress. The term "innovation" became widely used in the Ukrainian economy both independently and to define such related concepts as «innovative activity», «innovative process», «innovative solution», etc.

The essence of innovation is revealed in its functions, which reflect its purpose in the economic system of the state and its role in the economic process [37, p. 53-54].

1. Reproductive innovation is an important source of funding for advanced reproduction. The meaning of the function is to profit from the innovation and use it as a source of financial resources.

2. Investment. The profit obtained due to the implementation of the innovation can be used in various directions, including as capital. This capital can be used to finance a new type of innovation. Thus, the use of profit from innovation for investment constitutes the content of the investment function of innovation.

3. Stimulating. Obtaining profit by the entrepreneur at the expense of implementation serves as an incentive for the introduction of new innovations; encourages constant study of demand, improvement Innovative reduction strategies make it possible to: reduce costs, which usually arise as a result of a negative situation in the country, or obtain greater profits possible under such a state of the economy; to accumulate resources for the implementation of priority, under current conditions, innovative projects, by reducing or abandoning some types of activities or liquidating certain structural subdivisions of the light industry enterprise, reducing costs that are not directly related to the production of products, etc. However, the implemented measures should not affect the tangible deterioration of product quality, but on the contrary, provide the enterprise with certain competitive advantages.

An innovation is the result of an innovation process. An innovative process is not a simple introduction of something new, but such changes in conditions, content, means, methods, forms of organization of production and management processes that have novelty; have the potential to increase the efficiency of these processes as a whole or some of their parts; are able to give a long-term beneficial effect that justifies the expenditure of effort and resources to implement the innovation; coordinated with other implemented innovations [38, p. 61-69].

Innovative activity consists of an innovative process that covers the entire complex of relations of production and consumption and represents the period from the birth of an idea to its commercial implementation. If there is an economic downturn in the country, then it is desirable for the enterprise to choose innovative strategies of reduction or stable development, or there is time to think about how to get out of the situation completely on an innovative basis. Giving excessive importance to the role of the technical factor in the development of the enterprise finds its explanation in the past, especially in the industrial management system and in the application of extensive management methods.

Product innovation is related to the addition of new quality features to the product, and they must be perceived by consumers as new. Changes in quality characteristics can be of two types: actual and fictitious. The first are generated by a change in material characteristics and lead to a change in material and emotional consumer value [39, p. 176].

We define organizational innovations at the enterprise as organizational improvements of its functioning as a whole, as well as organizational improvements of individual areas of production with the aim of obtaining appropriate economic results. Organizational innovations can be manifested in two main forms:

– organizational innovations, not related to technical innovations, the purpose of which is to improve the activity and use of the existing labor resources and property of the enterprise;

– organizational innovations caused by technical innovations and actively interacting with them, as well as favorable growth of their economic efficiency.

Innovative processes are developing all over the world at a fairly fast pace, although in different regions differently, at the same time, world economic globalization has a significant impact on the competitiveness of production and delivery of products to the consumer, including in the agro-industrial complex of Ukraine.

The term «globalization» (English globalization, from Latin globus – ball, globe, globe) means the process of worldwide economic, political and cultural integration and unification. The main consequences of this process are the international division of labor, worldwide migration of capital, human and production resources, standardization of legislation, economic and technical processes, as well as the convergence of cultures of different countries [40].

The global economy is considered as a historical socio-economic process, the content of which is the growing relationship and interdependence of national economies, the merging of national markets into a single global market. Specialists and researchers of globalization have not developed a single approach to retrospective consideration of the emergence, stages of formation and development factors, consequences and manifestations of globalization processes in the world economic space, which is due to the multifacetedness and complexity of the above-mentioned process.

Globalization, as defined by the famous American researcher T. Friedman, «is ... the integration of markets, nation-states and technologies, which allows individuals, corporations, nations, states to reach any point in the world faster, deeper and cheaper than before. Globalization has its own set of economic rules, which are based on the opening, deregulation and

privatization of national economies in order to strengthen its competitiveness and increase the attractiveness of foreign capital» [40, p. 9].

The WEF Global Competitiveness Index includes 12 indicators of competitiveness and is compiled on the basis of open information, as well as taking into account the opinions of several thousand experts from more than 100 countries. This year, the publication notes that a decrease in openness threatens growth and prosperity.

It also emphasizes that monetary stimulus measures such as quantitative easing, insufficient to sustain growth, must be accompanied by competitiveness reforms.

The main lever for ensuring the competitiveness of the agro-industrial complex is the efficiency of economic activity of enterprises.

They single out such components as: enterprise competitiveness, production competitiveness, product competitiveness.

Consider the competitiveness of an agricultural enterprise determined by the following parameters:

1) the ability of the enterprise to function effectively on the domestic and foreign markets;

2) the ability of the products of this enterprise to compete on the market with similar products;

3) obtaining competitive advantages by the enterprise on the basis of products of appropriate quality;

4) effective use of technologies, resources, management methods, skills and knowledge of personnel, components of marketing activity, which are reflected in the quality and competitiveness of products, profitability of the enterprise [41, p. 115].

An important condition for ensuring the competitiveness of enterprises is the effective use of resources, attracting qualified personnel, achievements of modern management, innovative, financial and informational capabilities of the enterprise, which together represent its potential, which, in turn, must also be competitive. Let's consider the concept of competitiveness of production.

This is a multifaceted concept that characterizes its ability to compete on domestic and foreign markets and is measured by the degree of presence of domestic products on them [42, p. 61].

The research results show the existence of three groups of agricultural products according to the level of competitiveness: 1) a group of competitive

products (sunflower seeds, their processing products, rapeseed, soybeans and their processing products, food and fodder grain); 2) a group of promising competitiveness (poultry meat, vegetables, eggs, milk and dairy products, pork, honey, potatoes); 3) a group of products with a low prospect of creating competitiveness (beef, sugar, flax) [43, p. 32].

A particularly important issue in the theory of competitiveness of the agro-industrial complex is the factors that affect its functioning. The final main conclusion indicates that stimulating business activity and investment in innovation are now as important as infrastructure and skills.

Among the most problematic factors affecting business in Ukraine, experts noted corruption, political instability, inflation, inefficient government bureaucracy and access to financing. In addition, the weak competitiveness of Ukraine is affected by crime, poor public health, and poorly educated workers [44].

The majority of domestic enterprises are not ready to actively compete in highly competitive global markets and are unable to form a competitive potential for their development taking into account the strict requirements of modern global transformations. The significant dependence of Ukraine's economy on complex globalization processes and the low competitiveness of the domestic economy on the international arena actualize the need to form the potential for competitive development of the national business sector and find directions for its growth.

The recovery of the economy and its gradual growth should be based on the development of the high-tech business sector and increasing its competitiveness on the European and global markets. An important task of state policy regarding the development of innovative entrepreneurship in the country should be the establishment of fruitful cooperation between the government, business and science. The priority directions for the country's government should be the stimulation of innovative activity of the entrepreneurial sector, the formation of a favorable regulatory and legal environment and the innovation and investment climate [45].

One of the priority tasks of state policy should be the implementation of European approaches to the development of small and medium-sized businesses, approved by the order of the Cabinet of Ministers of Ukraine dated May 24, 2017 No. 504. on the Strategy for the development of small and medium-sized enterprises in Ukraine for the period up to 2020.

The goal is to promote the development of entrepreneurship in Ukraine by creating favorable conditions for the opening, management and growth of small and medium-sized enterprises through the consolidation of the efforts of all interested parties, which will ensure socio-economic development in the country and increase the standard of living of the population.

To achieve the above-mentioned goal, 6 strategic areas have been defined: creation of a favorable environment for the development of SMEs, improvement of access to financing, simplification of tax administration, popularization of entrepreneurial culture and development of training in entrepreneurial skills, promotion of export/internationalization, strengthening of competitiveness and innovation potential of SMEs. It will coordinate the implementation and control of the implementation of the plan of measures for the implementation of the Strategy of the Ministry of Economic Development [46].

Increasing the competitiveness of production enterprises will obviously contribute to the development of trade, including at the global level. A higher level of competitive production, especially in the agricultural sector, is a real factor influencing logistics processes. In turn, supply chains are a more important component of logistics processes. Improving the management of supply chains will make it possible to improve these processes and ensure uninterrupted supply of various types of products to consumers.

6. Conclusions

Today, the production and sale of agricultural products in Ukraine is a strategic resource that provides a large number of countries with its main products – grains and their processing products. Therefore, product delivery processes, including and agro-industry, attention is paid more than ever. The consequences of the COVID-19 pandemic and Russia's military aggression on the territory of Ukraine turned out to be the factors restraining and at the same time speeding up such implementation. In these conditions, the process of managing product supply chains is of particular importance, and since supply conditions change very quickly, the only tool that can be used to solve these issues today is the digitalization of these processes.

In today's extreme economic conditions in Ukraine and the world, innovations are very necessary, and the lion's share of them should be directed to the agricultural sector of production and sale of products. The peculiarity

of agricultural innovations is not only the creation of fundamentally new products, but also the systematic introduction of innovative elements into the business processes of agrarian production, which involve the improvement of logistics, especially in terms of product movement and supply chains both within the enterprise and in the process of bringing it to the consumer. lowering the cost of production, strengthening control, increasing quality, service, etc. At this stage, the use of digitization tools is also a mandatory element of problem solving, which cannot be done without in the modern conditions of economic development.

Without improving the institutional environment, as practice shows, further innovative development of domestic agricultural enterprises is almost impossible, for this it is absolutely necessary to build a flexible system of regulatory and legal regulation, capable of timely adapting to new conditions that are constantly changing in the world economy, especially in Ukraine, on based on the application of the latest information technologies, including the digitization of the economy. As a result of such implementation and one of the conditions for further increasing the competitiveness of agricultural enterprises and logistics supply chains is their transition to an innovative development model.

In recent decades, practice has shown that globalization opens up opportunities to overcome the technological gap and introduce innovations to increase the competitiveness of the national economy and its close ties with the economies of other countries. The decrease in Ukraine's rating indicates a decrease in its innovation potential, which confirms the need for Ukraine to create an effective mechanism for the activation of innovative development, which will allow for the recovery of its economy and further integration into the world economy, its rapid recovery and reconstruction of the part destroyed by military actions.

In order for enterprises to develop in accordance with the requirements of the times, it is necessary to increase the volume of production and the level of competitiveness of agricultural products, which is one of the promising directions of the development of agricultural enterprises of our country; use innovative approaches to economic activity in agriculture. The main direction of this strategy is the introduction of innovations aimed at the rational use of resources, cost reduction (competition based on cost leadership is one of the most optimal strategies considering the unstable

political and economic situation in the country), and improving the quality of products based on the production of organically clean products. The above, with an effective investment policy today, will provide farmers with long-term competitive advantages and stable profits in the future. These competitive advantages will be necessary for enterprises in the sale of their products, where possible they will be used in the reconstruction of destroyed supply chains both within the country and abroad.

In general, we considered the innovation strategy as a system concept that directs and integrates the development of the innovative activity of an economic entity with the system of long-term goals of its socio-economic activity, determined by the general tasks of development and its innovative orientation. The choice of innovative strategy significantly affects the strengthening of the competitiveness of the company's products, and, conversely, the choice of such a strategy also depends on the level of competitiveness of its innovative products. An incorrectly determined indicator of product competitiveness can lead to the choice of a suboptimal innovation strategy, which will jeopardize the success of the enterprise.

The choice of an innovative strategy of farms of the agro-industrial complex of Ukraine in combination with the challenges faced by the country today will contribute to the development of the entire economy of the state, the issue of the logistics system of grain deliveries from Ukraine to other countries of the world is especially obvious today. Establishing new and using existing supply chains is a priority task today for scientists, practitioners, leading global logistics companies, etc., and these tasks can only be performed if the management processes of such supply chains are established using the latest achievements in the field of digitalization of these processes.

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