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Yuliia V. Okhota, Ph.D. in Economics, Senior Lecturer, Senior Research Officer, Department of Administrative Management and Alternative Energy Sources, Faculty of Management and Law, Vinnytsia National Agrarian University. Vinnytsia, Ukraine.

ORCID 0000-0001-9943-2206, Scopus 57217254397

Illia A. Chikov, Ph.D. in Economics, Senior Lecturer, Senior Research Officer, Department of Computer Science and Economic Cybernetics, Faculty of Economics, Information Technology and Service, Vinnytsia National Agrarian University. Vinnytsia, Ukraine.

ORCID 0000-0002-2128-5506, Scopus 58503523600

Competitiveness of agricultural enterprises: factors of increasing based on innovative determinants

Abstract: The article examines the key factors of improving the agricultural enterprise's competitiveness based on innovative determinants. The study object is agricultural enterprises, their activities and management processes. The study subject is the analysis of innovative factors and determinants that influence the increase in the agricultural enterprises' competitiveness. The study aims to research the factors of increasing competitiveness, innovative development, and agricultural enterprises' innovation activity conditions. To implement the study, the works of O.S. Litvinov, P.V. Kumanova, L.M. Pronko, K.S. Tokar, V.H. Hranovska, O.P. Khaietska, I.V. Honcharuk, I.V. Tomashuk, O.H. Shpykuliak, L.I. Kurylo, I. Farida, D. Setiawan were used. The main attention is paid to the need to develop and implement an innovative strategy to improve the efficiency of the agricultural enterprises' functioning. The "competitiveness" and "innovation" existing concepts are analyzed, particularly in the context of functioning enterprises in the agricultural sector of the economy. The theoretical and practical aspects of competitiveness, including factors influencing the ability of enterprises to withstand competitive pressure, are considered. Particular attention is paid to the relationship between innovation activity and the level of competitiveness, like strategic approaches to introducing new technologies and management methods to ensure sustainable development of the agricultural sector. The authors present a factors list helping to increase agricultural enterprises' competitiveness and analyze their impact on forming competitive advantages and intensifying innovation processes in the industry. It is proved that innovations play a key role in strengthening the competitive position of agricultural enterprises, contributing to their stable development and adaptation to changes in the market. In particular, it is determined that introducing new technologies and methods of economic activity contributes to increasing production efficiency, reducing costs, and improving product quality. This allows agricultural enterprises to be more competitive in the domestic and foreign markets, and quickly adapt to changes in consumer preferences and market conditions. The study results can be used to formulate recommendations for implementing an innovation strategy at agricultural enterprises to increase their competitiveness and ensure sustainable development.

Keywords: enterprise competitiveness, product competitiveness, innovation, innovative transformations, agriculture enterprises, factors.



Introduction

An urgent problem of economic growth, considering the vector of innovative transformations of the world economic system, is the innovative way of agriculture enterprises' development. The enterprise is the main link of the economy, like the driving force of creating products and services necessary for society. The rapid dynamics of changes in the technology of production, management, and organization of the enterprise leads to an intensification of the competitive struggle, in which enterprises that direct significant resources to the creation of various innovations and devote enough time to innovative activities become more effective and successful.

The modern struggle for a place on the market is becoming more intense and tougher due to the innovative activities development as a result of production's innovative improvement and the appearance of new goods and services. At the same time, the available theoretical approaches and tools, regarding the implementation of innovations and the ability to activate them, do not always meet the expected results.

The study object is agricultural enterprises, their activities and management processes.

The study subject is the analysis of innovative factors and determinants that influence the increase in the competitiveness of agricultural enterprises.

The study aims to research the factors of increasing competitiveness, innovative development, and agricultural enterprises' innovation activity conditions.

Based on the purpose of the study, the following tasks were solved:

- literary sources in the subject area were analyzed, which made it possible to determine the main trends and problems in the field of innovative development of agricultural enterprises;
- the main concepts and characteristics of competitiveness in the context of the agro-industrial sector are defined;
- key factors affecting the ability of enterprises to compete on the market are determined;
- the role of innovations in the development of agribusiness enterprises was investigated;
- the influence of the introduction of the latest technologies and solutions on the productivity and efficiency of economic activity is analyzed.

To implement the study, the works of O.S. Litvinov, P.V. Kumanova, L.M. Pronko, K.S. Tokar, V.H. Hranovska, O.P. Khaietska, I.V. Honcharuk, I.V. Tomashuk, O.H. Shpykuliak, L.I. Kurylo, I. Farida, D. Setiawan were used.

Research methods

The following general scientific and special research methods were used in the study: monographic (allowed to carry out an in-depth study of a specific object of study – enterprises of the agro-industrial complex (AIC). In particular, the existing theoretical and practical aspects of the agricultural enterprises' competitiveness were analyzed in detail, which made it possible to form a thorough idea of the current state and challenges in this area), logical-theoretical (allowed to create the logical structure of the study. Thanks to this method, it was possible to identify the relationships between different theoretical approaches and concepts related to competitiveness. This made it possible to build a clear theoretical framework, based on which

further research questions were developed), and system analysis (It was used for a comprehensive study of the objects and processes under study. The application of this method made it possible to consider agricultural enterprises as complex systems with many interrelated elements, contributing to the understanding of their interaction and the identification of key factors that affect their competitiveness), abstract-logical (helped to summarize and systematize the data obtained, to identify the main trends and patterns related to innovative determinants of increasing the agricultural enterprises' competitiveness. Using this method made it possible to formulate new theoretical approaches and proposals for improving competitiveness) and generalization (made it possible to summarize the study results, systematize the data obtained, and identify the main conclusions. Thanks to this method, it was possible to conclude the effectiveness of using innovative determinants to increase agricultural enterprises' competitiveness, like developing recommendations for their implementation.

The results of the study

Analysis of literary sources from the subject area

The main theoretical and methodological provisions related to the disclosure of the problems of increasing the agriculture enterprises' competitiveness in the prism of the innovation's introduction were reflected in the scientific works of some leading scientists.

O.S. Litvinov and P.V. Kumanova in their research, having analyzed the impact and significance of innovative activity in increasing business entity products' competitiveness, substantiated the need to change the vector of activities of domestic enterprises to an innovative path of their development (*Litvinov & Kumanova, 2021*).

V.V. Boiko and M.Ya. Zarichnyi focus their attention on such priority tools for increasing the level of enterprises' competitiveness under martial law as institutional-legal, fiscal-tax, financial-investment, marketing-market, technical-technological, intellectual-personnel and information-analytical (*Boiko & Zarichnyi, 2023*).

Examining the main factors affecting the business entities' competitiveness in a rapidly changing global economy, R.R. Bilyk and A.H. Sarafinchan emphasize the dynamic interaction between various factors that shape the competitive environment and the significance of continuous innovative development and strategic flexibility to ensure long-term competitiveness (*Bilyk & Sarafinchan, 2023*).

L.M. Pronko and K.S. Tokar studied the enterprises' competitiveness problems through the prism of relationship marketing. In particular, it was proposed to add the following to the basic principles of relationship marketing: consumer orientation, openness and trust, and partnership. Quite appropriate is the number of measures highlighted by the authors, ensuring that enterprises achieve competitive advantages, including

- reduction of the cost of production; increasing its priority;
- change in the quality and technical parameters of products;
- quality service;
- identifying the shortcomings of the competitor's goods;
- implementation of innovations;
- advertising;

- search for new areas of product use (*Pronko & Tokar, 2023*).

In their research, M.O. Akuliushyna, L.H. Zotova, and others conduct a theoretical disclosure of the “competitiveness” definition in the modern sense. At the same time, the main groups of factors that have the greatest influence on the change in competitiveness are determined, indicating the degree of this influence; identify opportunities for management and control over the probable consequences of the factors’ influence and timely response to changes in market conditions (*Akuliushyna et al., 2024*).

V.H. Hranovska suggests considering the competitiveness of agricultural enterprises as a complex concept that characterizes the full range of competitive advantages and potential of the enterprise. Strategic potential and the effectiveness of its use, the speed of reaction to changes and adaptability to the operating environment variability, the speed of response to consumer needs, and the ability to respond adequately to competitors’ innovations (*Hranovska, 2016*).

According to the research of Z.V. Kriuchkova, the agricultural enterprise’s competitiveness is determined by the following parameters:

- (1) the ability of the enterprise to function effectively in the domestic and foreign markets;
- (2) the ability of the manufactured products of a separate enterprise to compete on the market with identical products;
- (3) obtaining sustainable competitive advantages by the enterprise based on agricultural products of some quality;
- (4) effective use of technologies, resources, management methods, skills and knowledge of personnel, components of marketing activity, reflected in the quality and competitiveness of products, and profitability of the enterprise (*Kriuchkova, 2016*).

Special attention is worth paying to the scientific work of P.A. Fisunenکو, thoroughly explored all possible approaches to determining the enterprise’s competitiveness, starting from the evolution of basic economic theories regarding the study of competitiveness (the theory of absolute advantages, the theory of comparative costs, the theory of comparative advantages, the theory of competitive advantages) and ending with modern scientific interpretations. He established that all existing studies on the understanding of competitiveness are based on general competition theories. He also stated that there is a connection between competitiveness and innovation (*Fisunenکو, 2020*).

Scientists I. Farida and D. Setiawan proved that productivity and innovation are the factors that can increase the competitive advantages of small and medium-sized enterprises. Scientists recommend that enterprises improve their efficiency and innovation potential to strengthen their competitive advantages (*Farida & Setiawan, 2022*).

Scientists Feng He, Longxuan Chen, and others reasonably prove that innovation is the driving force of sustainable and healthy economic and social development for the economy as a whole and is the basis of growth for enterprises. They believe that achieving a balance between access to factors/resources and market competition can encourage enterprises to follow a market-oriented development path in their corporate innovation (*Feng He et al., 2024*).

Based on the analysis of the latest scientific research, most scientists do not see a solution to the problem of increasing the enterprises’ competitiveness without innovation. With the recent changes in economic and political conditions, the issue of introducing innovations to increase the competitiveness of enterprises remains relevant and requires further study.

Theoretical aspects of the agribusiness enterprises' competitiveness

To determine the factors that influence the increase in competitiveness, we will first consider the “competitiveness” concept essence as an economic and managerial category, like the “innovation” concept.

Increasingly, scientists draw parallels between the product competitiveness and enterprise competitiveness concepts. Various authors consider the “enterprise’s competitiveness” concept either in conjunction with the “product competitiveness” concept or without such dependence.

According to O.H. Nefedova, the enterprise and product’s competitiveness concepts are worth combining. Competitiveness is worth understanding as the ability of an enterprise to influence the market situation in its interests and produce products that meet the consumer’s requirements at a relatively low-cost level (*Nefedova, 2006*). Bohomolova, K.S. also notes that the most significant factor in the agricultural enterprise’s competitiveness is its products’ competitiveness. At the same time, the author calls the key characteristic of the product its price advantage (*Bohomolova, 2019*).

As mentioned above, there are authors considering the “enterprise’s competitiveness” concept without interconnection with the “product’s competitiveness” concept.

According to domestic scientists A.S. Afonin, S.V. Bilousova, and others, the firm’s competitiveness is the ability and behavior of the company, providing it with a long time to achieve its goals and successfully perform in the market together with other entities present there (*Afonin et al., 2008*).

O.P. Khaietska notes that competitiveness is an indicator showing the possibility of adapting an entity to the new conditions of the competitive environment. The efficiency of the agricultural enterprises’ functioning is due to the strengthening of competitive positions not only in the national market but also in the international markets of homogeneous standardized products (*Khaietska, 2022*).

V.V. Adamyk and H.L. Verbytska argue that the enterprise’s competitiveness is a relative concept that reflects the difference between the process of development of this enterprise and a competitor both in terms of the degree of satisfaction of social needs by its products and in the efficiency of commercial activity (*Adamyk & Verbytska, 2008*).

Based on N. Struk’s statement, the firm’s competitiveness is understood as the real and potential ability of a company to design, manufacture, and sell goods. The detailed significance and analysis subject should be the range of products, manufactured by the enterprise (*Struk, 2008*). Such an interpretation of competitiveness means that the products’ competitiveness is the enterprise’s competitiveness component.

J.V. Kryuchkova understands competitiveness as the ability of an enterprise to function in a market economy in the long term, creating and selling products that meet the needs of people and are different from similar ones, while taking a stable position in a certain industry and receiving regular profit sufficient to improve production (*Kryuchkova, 2016*).

P.A. Fisunen established that competitiveness is a set of formative and resultant features that characterize the qualitative side of the enterprise’s functioning and the change of which reflects its characteristics – opportunity, ability, capability, and condition (*Fisunenko, 2020*).

The enterprise’s competitiveness is determined by the competitiveness of goods and

services offered in the consumer market, respectively, the set of consumer properties of goods that ensure its ability to compete with analogs in a particular market in some time (*Adler, 2012*).

Based on the above, we believe that competitiveness as a complex category is worth interpreting as the ability of an enterprise and its products to successfully perform their functions in the market for a long time and dominate in some or all areas of its activities over competitors.

System of influencing factors on agribusiness enterprises' competitiveness

Various factors determine the enterprise's competitiveness. Today, scientists single out several factors that affect enterprises' competitiveness. In particular, they classify factors into external and internal, controlled and uncontrolled, micro-, meso-, macro-level factors, factors of product's competitiveness and enterprise potential, etc. (*Table 1*).

As can be seen, the influence of many factor levels forms the agricultural enterprises' competitiveness. Along with adaptation to changes at the macro level and response to global trends at the meta-level, effective management of internal (micro- and meso-level) resources and processes is critically significant for maintaining competitive advantages and ensuring the sustainable development of agricultural enterprises. A comprehensive approach to assessing and managing these factors helps businesses adapt more effectively to a changing environment and maximize their competitive opportunities.

"Multi-level" influencing factors system can be generally divided into two groups – internal and external (*Table 2*).

Now, it is necessary to take a closer look at the internal factors that are an integral part. They occur at all stages of the enterprise.

1. Flexibility, system, and management methods. This aspect is considered as the ability to adapt to changes in the internal and external environment, the speed of response, the effectiveness of decision-making, and communication strategies, the ability to build successful and effective management mechanisms, and constant monitoring of the activities carried out.
2. Strategies used. Implementation and use of action plans, and strategic decisions to achieve goals related to all activity stages aimed at expanding the business or range, etc.
3. The level of enterprise's innovation and technological support. Continuous improvement, updating, and inspection of technical equipment help improve products, optimize production processes, and increase competitiveness.
4. The state of financial resources management. The enterprise's financial stability is the key to further developing and maintaining competitive positions.
5. Product quality. Implementation of laboratories at enterprises, compliance with quality and compliance standards, such as ISO 22000, DSTU 4161-2003, and others, and the degree of compliance with the requirements to meet the needs and expectations of consumers.
6. Personnel management. Appropriate working conditions, high wages, career growth, and staff motivation play a significant role in ensuring increased competitiveness.
7. Marketing strategies. Focus on consumer awareness of the company's products and services, effective pricing strategy, direct marketing, use of promotions and discounts, loyalty programs, and promotion through social networks, all this ensures maintaining market positions and high sales, which increases competitiveness.

8. Level of customer satisfaction. Constant monitoring of customer satisfaction, collecting feedback on quality, price, service, and suggestions for improvement.
9. Staffing. Availability of qualified personnel to perform various functions and tasks of the company, low staff turnover, and staff's constant monitoring.
10. Social responsibility. Identification of social responsibility, compliance with ethical standards and environmental norms, and volunteering in the conduct of activities improve the image and attract the attention of consumers.
11. Supply chain management efficiency. The supply chain refers to everything that happens from the stage of purchasing raw materials to the distribution of finished products. It is important to establish cooperation with successful suppliers and distributors, and constantly analyze and monitor their condition in the market, in addition, logistics activities are the basis for the delivery of any product from the manufacturer to the consumer, speed, convenience, and good storage conditions are competitive advantages. Thus, effective management allows you to benefit from optimizing processes, reducing costs, and improving the quality of goods or services (*Akuliushyna et al., 2024*).

We will also analyze external factors and their impact on increasing the enterprise's competitiveness.

1. Russia's war against Ukraine, which affected all aspects of life. Thus, many enterprises have suffered heavy losses, some have ceased their activities, and some enterprises have been destroyed, i.e., we must understand that the war poses a threat not only to the enterprise's competitive position but also to its existence as a whole. However, it is worth noting that many enterprises have been able to adapt to changes and requirements of the time, successfully carry out their activities, and increase their competitiveness in the market.
2. Political stability positively affects the enterprises' competitiveness as it reduces environmental uncertainty.
3. Tax policy has a significant impact on enterprises' competitiveness. An increase in taxes leads to additional costs for the enterprise, a reduction in taxes can help the company to increase its competitiveness, through the investment of released funds in development.
4. Government policy on exports and imports. An effective export and import policy will help create good conditions for developing and entering enterprises into international markets.
5. The number of competitors in an industry greatly impacts enterprises. Many competitors and the absence of barriers to the entry of new enterprises into the market leads to a situation where enterprises may find themselves in difficult conditions of reduced demand for products and the need to retain their customers in various ways, among which one of the most effective will be price reduction. In turn, this will lead to lower company profits and fewer development opportunities. At the same time, an enterprise operating in an industry with a moderate number of competitors has a better chance of increasing the level of competitiveness.
6. Effective antimonopoly policy greatly affects the enterprises' competitiveness as it prevents market monopolization and promotes fair competition development.
7. Availability of credits. In a situation where the company does not have its free funds, it can use credit funds, e.g., to conduct research work, introduce technological developments and innovations, upgrade equipment, etc. Such actions will lead to an increase in the enterprise's

- efficiency and an increase in its competitiveness level.
8. Purchasing power of the population. Population purchasing power increase leads to an increase in demand for products and the number of buyers. With production and marketing activities organization, the company can increase production volumes, attract new customers, and increase sales, which will certainly lead to the strengthening of its competitive position in the market.
 9. Demographic situation. Improving the demographic situation can help increase products demand, creating opportunities for improving the competitiveness level.
 10. The legislative framework has a decisive impact on enterprises' activities and therefore affects their competitiveness. An effective, clear, and understandable legal framework creates the basis for the activities of enterprises, with clearly defined frameworks and requirements.
 11. Opportunities for obtaining grants to develop the enterprise are ones of the most relevant factors contributing to increasing the enterprise's competitiveness. Currently, there are many grant programs for foreign investors, aimed at supporting businesses during the war. Therefore, by taking advantage of the program and receiving a grant, entrepreneurs have a great chance to increase the enterprise's competitiveness.
 12. State support of entrepreneurship. The war in Ukraine has significantly worsened the economic situation, so the state is currently directing significant efforts to support and develop businesses. Thus, assistance is provided in the form of grants, grants, preferential lending, creating an attractive environment for investors, etc. A company can use these opportunities to increase the competitiveness of its business.
 13. The high level of technological development of the country and the world creates opportunities to increase the enterprise's competitiveness by introducing new technologies and innovations (*Akuliushyna et al., 2024*).

Separately, it is worth focusing on some factors to increase the agricultural enterprises' competitiveness, distinguished from other industries by their management specifics. These factors include:

- products (crops and animals that are reared). If the level of yield of a particular crop or return on animal husbandry does not justify the expected results, the enterprise in a relatively short time (one year, except for horticulture) can change the products it grows;
- weather conditions;
- the land area on which agricultural products are grown and the quality of these areas (e.g. soil fertility);
- availability of equipment and the use of technologies to increase yields (in particular, the use of fertilizers);
- financial (access to financial resources and ability to manage them);
- the legal and economic environment in which the company operates;
- the ability of the management to organize the main agricultural work and the sale of the crop promptly (*Kryvesko & Sidun*).

From this, we can conclude that some factors are objective and related to natural and climatic conditions. In other words, to a large extent, the competitiveness of an agricultural

enterprise is determined by external conditions, not by the abilities of managers and employees, or by available technologies.

Market changes in the Ukrainian economy's agrarian sector necessitate the formation of a complex multifaceted economic system, capable of adapting to the conditions, constantly changing and becoming more complex both within the agricultural sector and in other national economic sectors. Therefore, Ukraine needs to set and consistently solve the tasks of agricultural enterprises' innovative development.

The innovative aspect of the factors of increasing the agricultural enterprises' competitiveness

According to J. Schumpeter, innovation is a change to introduce and use new types of consumer goods, new production and transport facilities, markets, and forms of organization in the industry (*Schumpeter & Backhaus, 2003*).

Innovation is not only innovation, it is also the ability to think in a new way and rethink existing stable, traditional truths, which is a prerequisite for participation in developing Ukraine (*Suprun, 2017*).

Innovation is a proven new one that has gone through all the stages of its development, supporting it with qualitative and quantitative indicators (*Oliinyk, 2022*).

Thus, we believe that innovation is a complete, unique solution, which, with the help of scientific and technological achievements, has found its implementation in the form of a new or updated social need, the implementation of which increases the efficiency of the enterprise's functioning in the context of creating competitive advantages to obtain the maximum possible economic, social, environmental or other effect.

It is worth noting that innovation, in its essence, aims to introduce something new or improve an existing one, but this process also has certain risks – the higher the project innovation level, e.g., a new method of production, a product with previously unknown properties, the higher the level of uncertainty and risk corresponds to it (*Figure 1*).

Innovation activity as a process is a prerequisite for the need satisfaction process. The result of innovation activity is the creation of an innovative economy built on knowledge and the commercialization of science (*Shpykuliak & Kurylo, 2010*). Thus, the essence of innovation lies in implementing changes constituting the functional content of an enterprise's innovation activity.

It is known that the main goal of any enterprise is not only to be competitive with other enterprises but to constantly modernize each stage of its production, too. This goal can be achieved only under the condition of high innovation intensity, because thanks to the constant renewal of production facilities, it is possible to respond promptly and at minimal cost to changes in consumer needs, scientific and technical aspects, and the market as a whole. A competitive advantage is gained by those market participants taking an active role in using innovations.

The impact of innovations on the formation of the system's competitiveness is shown in the appendix (*Figure 2*).

The essence of innovative development of various national economy sectors does not contain fundamental differences, but it is the agriculture enterprises, unlike others, that the development of innovations is much slower, therefore it requires special attention.

Innovative processes in agriculture have certain features and are related to their specifics, in particular, the presence of living organisms, seasonality, increased risks, etc.

In our opinion, the main features of the formation and development of the innovation process in agriculture should include:

- (1) significant regional differences in natural and climatic conditions, specialization, and volumes of agricultural production;
- (2) a variety of types of cultivated crop products, like products of its processing; the presence of a significant difference in the technology of growing, keeping, and feeding animals;
- (3) seasonal nature of agricultural production, characterized by differences in the periods of production of certain types of agricultural products;
- (4) availability of various production types in different organizational and legal forms, forms of ownership, sizes, and specialization;
- (5) dependence of production technologies in agriculture on natural and climatic conditions;
- (6) the logistics system is damaged during the war, making it impossible to cooperate with remote suppliers and product markets;
- (7) lack of labor resources and different socio-educational levels of agricultural workers, whose qualifications need to be systematically improved to introduce effective innovation activity at the enterprise;
- (8) remoteness from information and consulting services and organizations that produce and implement scientific and technical products, like the lack of a clear and scientifically grounded organizational and economic mechanism for transferring scientific achievements to commodity producers, as a result, a significant lag in the industry in developing innovations.

According to the subject and scope of application in agriculture, as a rule, there are eight types of innovations (*Table 3*).

Thus, innovation as a factor in increasing competitiveness is scientific, technical, technological, economic, and organizational changes in production, which differ from the existing practice and are aimed at improving the production process to ensure competitiveness. Characterizing the significance of innovations for the achievement of competitive advantages by an enterprise, it is worth noting that innovation processes ensure the optimization of organizational forms of relationships, contribute to developing infrastructure, and become the basis for forming effective motivational mechanisms for their further functioning in the market (*Berezina, 2013*).

Activation of agricultural enterprises' innovation processes is possible due to various factors. The most significant factor, recognized by scientists, is the enterprises' orientation to the market and their attitude to innovations. Significant factors also include an effective system for evaluating and selecting innovative projects, the management effectiveness of such projects, and proper control, like the combined reduction of management links and the timing of developing innovations (*Sitkowska, 2016*).

As world experience shows, the effect of the impact of innovations on increasing competitiveness has three components (*Kolesov, 2010*):

- (1) increasing the products' competitiveness, creating competitive advantages in the short and medium term;

- (2) the emergence of new consumer needs, creating competitive advantages in the long term;
- (3) increasing the efficiency of production, which by its influence transforms the competitiveness of products into the enterprise's competitiveness.

According to this, the application of innovations in their activities will not only help domestic enterprises to establish internal processes for producing products due to advanced technologies but also help to increase the competitiveness level and maintain competitive advantages over time. An enterprise using innovative processes in its activities has a competitive advantage as long as the confidentiality of the innovations implemented in it is maintained because almost any achievement can be repeated.

Discussion

The question of how innovative determinants can affect agricultural enterprises' competitiveness in the long term remains debatable. On the one hand, innovation can provide a significant increase in productivity, improved product quality, and reduced production costs, which undoubtedly increases the enterprises' competitive position in the market. On the other hand, implementing innovative technologies often requires significant financial investments and time to adapt, which can create certain risks for enterprises, especially those with limited resources. This raises questions about the balance between investing in innovation and the potential benefits it can bring.

Another debatable topic is the role of state support in stimulating innovative processes in the agro-industrial complex. Some experts argue that active government support, such as subsidies, tax incentives, and grants, is a prerequisite for ensuring the sustainable development of innovation in the agro-industrial sector. At the same time, others believe that excessive dependence on government support can lead to a decrease in the enterprises' motivation to independently implement innovations and develop their research initiatives. In this context, there is a discussion about the optimal level of state intervention and support, which would stimulate innovation without reducing the enterprises' independence and competitiveness.

In addition, the issue of the impact of globalization on agricultural enterprises' competitiveness remains unresolved. Integration into the world economy opens up new opportunities for exporting products, accessing new markets, and exchanging innovative technologies. However, globalization also carries the risk of increased competition from foreign producers, which can lead to a decrease in the profitability of local enterprises. In addition, global markets dictate certain standards of product quality and safety, which can be difficult to meet. This creates additional challenges for agricultural enterprises in the context of increasing their competitiveness at the international level.

Conclusions

The problem of enterprises' competitiveness in the modern world has a universal character. In any country including Ukraine, the economic and social life level depends on how successfully it is solved.

One of the promising directions for developing agricultural enterprises in Ukraine is the introduction of innovations for implementing successful economic activity. Enterprises that successfully implement innovations in their activities have a competitive advantage as long as

they are innovatively active. This is argued by the fact that enterprises that do not pay enough attention to innovative development become obsolete and gradually lose the market, consumers, and the ability to compete with other enterprises.

The success of innovative transformations is ensured by a favorable combination of certain factors and conditions, the development of which is possible only during the implementation of a purposeful innovation policy.

Thus, the enterprise's innovation activity, accompanied by the continuous introduction of innovations, leads to an increase in its competitiveness.



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Appendix

Table 1. Factors influencing the agricultural enterprises' competitiveness

Impact Level			
Micro Level	Meso-level	Macro level	Meta Level *
Marketing activity at the enterprise	State of innovative activity	The level of solvent consumer demand	Conditions of foreign economic activity, European integration processes *
Logistics activities at the enterprise *	Scientific and technical potential of the industry	Level of support for domestic producers	Global demand amid a shortage of crop and livestock products *
Natural, climatic, and soil conditions *	Awareness of market conditions	Institutional policy of the state	Scientific and technological progress *
Qualification of personnel and the level of their motivation	Competing Enterprises *	Inflation rate *	Logistics processes *
Material, technical, and financial support for the enterprise	Material, technical, and financial support of enterprises in the industry	Information Technology (Smart Technology) *	Regulatory and legal support *
Innovative capacity of the enterprise *	Efficiency of the organization of the industry	Financial, tax, and credit policy of the state	Migration processes *
Production volumes, costs, specialization, and size of the enterprise	Conditions of material and technical supply	Institutional support for innovation *	Military-political conditions *
Quality of raw materials, materials, and semi-finished products *	Level of fertilizer supply	Standardization of production and labeling of products *	Compliance of products with international standards *
Level of technology investment	Level of provision of plant protection products *	Social and Environmental Responsibility *	International Trade Tax Liabilities *

Source: author's development (*Okhota et al., 2024*)

Table 2. Factors influencing the agricultural enterprises' competitiveness

Internal factors	External factors
Financial Resources	Economic situation in the country
Material and technical base	Market Conditions
Technology & Innovation	Technological advancement
Human Resources	Socio-demographic factors
Organizational factors	Political and legal stability
Marketing Strategy	Environmental factors
Quality of management processes	Competition in the market
Supply Chain	Regulatory Requirements
Level of corporate culture	Changes in international politics
Internal communications	Changes in consumer preferences
Cost and availability of resources	Global Economic Trends
Availability and quality of intellectual property	Investment climate
Innovative Culture	Trends in Agronomy and Agriculture

Source: author's development (*Chikov et al., 2022; Chikov & Kovalchuk, 2024; Dotsiuk et al., 2024*)

Table 3. Classification of innovations by subject and scope in agriculture

Classification feature	Type of innovation
Biological	– new varieties and hybrids of agricultural plants; – new breeds, types of animals, and birds.
Technical	– use of new types of machinery and equipment.
Technological	– new technologies for processing crops; – new technologies in animal husbandry; – scientifically grounded and ecologically sound systems of agriculture and animal husbandry; – new resource-saving technologies for the production and storage of agricultural products.
Chemical	– new fertilizers and their systems; – new plant protection products.
Economic	– new forms of enterprise organization, and planning; – new forms and mechanisms of innovative development of the enterprise.
Social	– providing favorable conditions for life, work, and recreation of the rural population.
Management	– new forms of organization and motivation of work; – new methods of effective personnel management.
Marketing	– entering new market segments; – improving the quality of products and expanding the range; – new distribution channels.

Source: compiled from source (*Donets, 2013*)

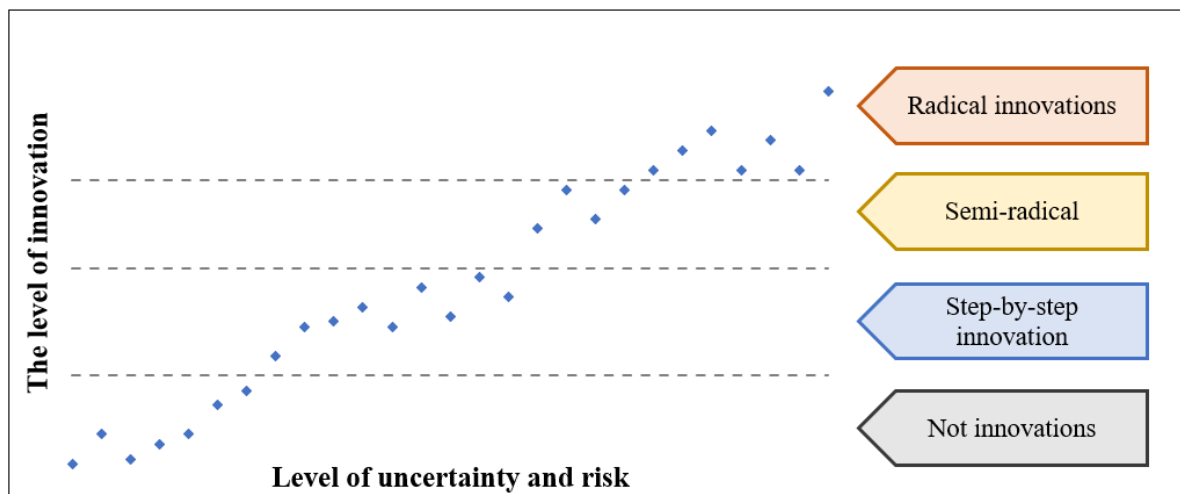


Figure 1. The interconnection between the level of innovativeness and the level of risk.
Source: graphically presented on the basis of processed literary sources

Improvement of products and services

- introduction of new functions and improvement of existing products
- increasing the quality and reducing the cost of products
- expanding the range of products

Expansion of markets:

- access to new markets thanks to unique innovative solutions
- expansion of sales geography thanks to new products and services

Increasing flexibility and adaptability:

- the ability to quickly respond to changes in market conditions
- the ability to adapt products and processes to customer needs

Improvement of management decisions:

- use of innovative management methods to make effective decisions

Investment attraction:

- increasing the company's value on the market thanks to innovative developments

Creation of new business models:

- introduction of new approaches to business
- development of new forms of cooperation and partnership

Increasing customer satisfaction:

- development of new channels of communication with clients and personalization of services

Figure 2. The Impact of Innovations on the Formation of Competitiveness of Agricultural Enterprises
Source: formed on the basis of (*Chikov & Yaroshchuk, 2024; Chikov et al., 2022; Honcharuk & Tomasbuk, 2023*)