

## ASSESSMENT OF THE IMPACT OF GLOBALIZATION ON THE REGIONAL DEVELOPMENT OF INNOVATION CLUSTER

<sup>a</sup>LIUDMYLA HERMAN, <sup>b</sup>OLEKSANDR FEDIRKO,  
<sup>c</sup>YEVHENII KOSTYK, <sup>d</sup>MARIANA SHKODA,  
<sup>e</sup>INNA SOKHAN

<sup>a</sup>*Bohdan Havrylyshyn Education and Research Institute of International Relations, West Ukrainian National University, Ternopil, Ukraine.*

<sup>b</sup>*Kyiv National Economic University named after Vadym Hetman, Kyiv, Ukraine.*

<sup>c</sup>*Hryhorii Skovoroda University in Pereiaslav, Pereiaslav, Ukraine.*

<sup>d</sup>*Kyiv National University of Technologies and Design, Kyiv, Ukraine.*

<sup>e</sup>*Sumy National Agrarian University, Sumy, Ukraine.*

email: <sup>a</sup>*laly07260605@gmail.com,*

<sup>b</sup>*fedirko.oleksandr@kneu.edu.ua,* <sup>c</sup>*evgenijkostik45@gmail.com,*

<sup>d</sup>*mariana.shkoda@gmail.com,* <sup>e</sup>*innalozynska@gmail.com*

**Abstract:** The article delves into the complex dynamics of innovation clusters moving through the complex landscape of global trends and challenges inherent in the comprehensive process of globalization. The multifaceted influence of global factors on the evolution of innovation clusters within the framework of the modern economic situation is also meticulously studied. In the course of the analysis, a special emphasis has been placed on a detailed examination of the challenges arising as a result of the current processes of globalization and the rapid development of innovative technologies. The present research identifies the key role played by innovation clusters as integral components of regional development and essential contributors to the tangled web of global production chains. One of the most important findings is the reconciliation of local and global interests in the circumstances surrounding the establishment and operation of innovation clusters. It has also been determined that globalization is a stimulus for innovative development and the emergence of new challenges to ensure the sustainable competitiveness of regional clusters in the global economic environment has been substantiated. It is noted that countries where innovation clusters demonstrate successful integration into global production chains actively use the advantages of globalization to develop their regional innovation systems. The primary purpose of the analysis was to determine the factors contributing to the successful integration of clusters into global processes. These factors include effective cluster management, the development of a flexible innovation strategy, and the ability to adapt to changes in the global economic environment. The role of innovation management in the context of globalization is considered separately, in particular, the need for constant monitoring and analysis of global innovation trends.

**Keywords:** Globalization, Global chains, Cluster, Regional clusters, Innovation cluster, Integration, Innovation environment, Regional development.

### 1 Introduction

The relevance and significance of globalization and its effects on the regional development of innovation clusters are growing in the current economic environment. Global transformations in the economy, technologies and communications not only change the paradigm of approaches to business but also create new opportunities and challenges for regional development, in particular, through the formation of innovation clusters.

In addition, it is important to determine how global technological changes, knowledge exchange and innovation affect the formation of innovation clusters and their competitiveness. Assessment of the impact of global competition, consumer needs and world trends will help reveal opportunities for expanding the horizons of innovative clusters and ensure their adaptation to new conditions.

Thereby, the study of the relationship between globalization and the development of innovation clusters is of strategic importance for the effective management of regional innovations and ensuring sustainable development.

The purpose of the research is to determine the impact of global economic and technological trends on innovation clusters and their ability to adapt to new conditions. In this context, the main objective is to reveal and study the factors determining the effectiveness of innovation clusters in the context of global changes.

### 2 Literature review

Bogashko O. L. (2021) examined the key trends in the development of modern regional economies in his scientific article and also adapted them to the impact of globalization, informatization and innovative development in the post-industrial era. The main emphasis in his study was placed on clustering as one of the important strategies, which is defined in the form of regional and interregional clusters. Clusters were considered priority inter-industry complexes, determining the development of the post-industrial information economy at different levels. Such integration of interrelated industries and interdependent social institutions creates a significant factor that contributes to increasing the competitiveness of both national and regional economies.

Along with this, the study of Boyko O. M. (2022) is important in assessing the further regional development of clusters in Ukraine. The scholar investigated important aspects of the functioning of clusters, focusing on their current role as a form of enterprise integration. The author took into account the features of developing clusters in different parts of the world, focusing on the unique components of each individual cluster. The main specificity of the cluster, identified by the researcher, is the achievement of a synergistic effect, which is manifested in increasing competitiveness. Emphasis was placed on innovative development as its distinguishing feature. In addition, the author highlighted the issue of financing the formation and development of aviation clusters in Ukraine, noting that these issues mainly concentrate on investment or budgetary resources, which is a key aspect for the successful implementation of cluster initiatives.

In addition, Karpenko A. V. and Karpenko N. M. (2022) have determined that the basis for the formation and effective functioning of a cluster is the building of trust and responsibility between its participants. At the same time, tolerance and solidarity in society are crucial, especially in conditions of market monopolization, a low level of business ethics, and a limited legal culture. The scholars pointed out that these factors have limited the full potential of the national economy for a long time. In particular, they have identified the need for territorial integration of scientific and educational institutions with a network of specialized suppliers, producers and consumers united by a technological chain. The authors also emphasized the importance of the conscious formation of clusters by participants in economic relations for the full use of the available potential and implementation of competitive advantages.

### 3 The applied methods

In the course of the research, the following methods were used:

- the analysis of literary sources was applied to study the essence of the concept of “cluster” and factors of development of the innovation environment of regional clusters;
- methods of comparative analysis were used to analyze global and domestic practices of formation and activation of cluster initiatives;
- the method of generalization was used to identify factors hindering the development of the innovation environment and promote the innovative development of regional systems.

### 4 The research results

In the current conditions, the main goal of economic strategy in advanced and developing countries is to strengthen national competitiveness and expand the influence of national companies on domestic and global markets, aimed at increasing the efficiency of their activities. Along with this, the exhaustion of

traditional industrial policy, which was carried out through the expansion of production and technological specialization and collaboration within network structures – innovation clusters – is making competitiveness management increasingly difficult (Horobynska, 2021).

The concept of “cluster” was formulated and introduced into economic theory by M. Porter, who is the founder of the theory of cluster development. According to his definition, a cluster is a group of interdependent companies, specialized suppliers, companies in related industries, and related organizations (such as universities, standardization agencies, and trade associations) in specific geographic areas. Such companies compete but at the same time cooperate to achieve common goals and effective interaction (Bechko et al., 2022).

The essence of modern innovation clusters includes various aspects that determine the features of this concept and indicate the key points in the formation of a strategy for creating effective clusters. Primarily, the geographical concentration should be noted, which presupposes that the businesses are part of the cluster and are centered in a single location. Such concentration helps increase the efficiency of cooperation and the exchange of ideas due to the physical proximity of the companies. The horizontal character of the cluster is expressed in the connection of enterprises from different industries, which promotes diversity and joint interaction among various sectors of the economy. In turn, the vertical character implies that the cluster includes enterprises with adjacent stages of the production process, and this contributes to the coordination and efficiency of production (Rykov, 2020).

In addition, clusters have a lateral scaling impact that involves integrating several industries to create a common scale and synergy and maximize interaction between various economic sectors. In turn, the technological nature of the cluster unites enterprises with similar technologies, promoting the exchange of innovative approaches. Focal concentration creates a cluster around a central element, thus, facilitating joint innovation initiatives (Petrenko et al., 2021).

The effectiveness of clusters is revealed in practice and demonstrated by real-life successful examples. The world’s leading economies are characterized by the presence of cluster structures, such as, Hollywood and Silicon Valley or the entertainment industry in Las Vegas. The effect that arises from the action of clusters on economic development is explained by the fact that companies achieving competitiveness in the global market spread their positive impact on the surrounding environment, including suppliers, consumers and competitors. The successes of this environment, in turn, contribute to the further growth of the competitiveness of companies (Neboga et al., 2021).

A characteristic feature of the cluster is the achievement of a synergistic effect for the included organizations, which is manifested in an increase in the competitiveness of the system as a whole compared to individual economic entities. The mechanism of increasing competitiveness in the cluster is based on the effective combination of interrelationships within the cluster in the production process with internal competition within the cluster (Lazarenko, 2022).

An innovation cluster, as an effective tool for achieving high competitiveness, is an informal association of various organizations, including research centers, industrial enterprises, individual entrepreneurs, state administration bodies, public organizations, and higher educational institutions. The formation of a cluster based on vertical integration contributes not only to the random concentration of technological inventions but also to the creation of a system of targeted distribution of new knowledge, technologies and innovations. Establishing long-term relationships among cluster members is a crucial prerequisite for the efficient conversion of ideas into inventions and innovations into competitive advantages (Sushchenko, 2017).

The intensive development of technologies, logistics, and information systems has led to an almost instantaneous exchange of information and financial flows. In light of this, key components for achieving and maintaining competitive advantages have become not only innovation and education but also interaction between enterprises, which creates favorable conditions for the formation of network structures, that is, clusters (Artyomov et al., 2019).

Experience from around the world provides compelling evidence that the process of cluster formation has been actively accelerating during the last 20 years. Well-known experts estimate that more than half of the economies of the world’s leading countries are already affected by this phenomenon. Globalization and the international competitive processes that characterize the modern world economy have become necessary prerequisites for the transition to a new paradigm of competitive management. Such repurposing consists of abandoning the traditional industrial policy in favor of a new system based on the effective use of the advantages of specialization and interaction (Smerichevska, 2020).

In this context, it should be noted that key initiatives such as the European Cluster Policy Group, the Europe Inter Cluster Initiative, the European Cluster Platform, the European Cluster Alliance, etc. are being implemented to support competitive clusters. These initiatives are aimed at harmonizing policy, strengthening international cooperation, increasing the efficiency of clusters, and stimulating their development in the context of globalization. Therefore, the main goal of this policy is to create a favorable environment for the growth of competitive and innovation-oriented clusters (Boyko, 2020).

In the context of the current conditions of developing and forming the innovative economy of Ukraine, special attention is paid to innovation systems at the regional level. The innovative development of regions and the formation of infrastructural support take place at different rates due to institutional, economic and industry specificities. The innovation environment creates conditions for the maximum use of innovation potential in the development of new products based on new technologies, with subsequent market introduction and high innovation receptivity (Ursakiy, 2021).

It should be emphasized that it is necessary to clearly define the tasks for the effective implementation of the cluster policy in the context of the current challenges facing the regions of Ukraine. Among the priority directions, it is possible to single out the development of systematic and methodical support for clustering, in particular, for innovative clusters. It is also crucial to substantiate and develop a legal framework for the implementation of cluster policy that takes into account the specifics of modern conditions (Artyomov et al., 2021; Savytska et al., 2021).

In particular, the key element is the institutionalization of cluster culture aimed at forming a positive attitude towards cluster initiatives and promoting their successful implementation. An integral part of this process is the creation of a network of business incubators, technology parks, technopolises and other infrastructural forms in the regions, which is aimed at promoting the development of small and medium-sized businesses within innovation clusters. The general guidelines of state regional policy, as outlined in the current State Strategy for Regional Development until 2027, authorized by the Ukrainian Cabinet of Ministers on August 5, 2020, No. 695, should be considered in the context of these duties. This document defines strategic directions and priorities for the sustainable development of regional systems (Cabinet of Ministers of Ukraine, 2020).

However, the development of innovation clusters and regional policies did not receive sufficient attention and government support. The beginning of the full-scale invasion of the Russian Federation into Ukraine led to the termination of the operations of more than 50% of small and medium-sized enterprises (SMEs), which make up more than 90% of the total number of

enterprises in the country. Under the conditions specified, the Analytical Center of the Ukrainian Cluster Alliance (UCA) developed the program "Export and Internationalization of Industrial SMEs" as one of the components of proposals for the anti-crisis action program of the Cabinet of Ministers of Ukraine. Thus, the problem for the cluster movement in Ukraine nowadays is passivity in the business environment regarding the formation of economic clusters, which is caused by the lack of an effective investment and innovation mechanism for the creation and functioning of clusters (Karpenko et al., 2023).

The solution of the tasks related to bridging the gaps in the innovation process and the effective use of factors contributing to the innovative development of regional innovation systems requires the improvement and development of new innovation strategies. The formation and active growth of the cluster's innovation environment is the means by which the critical stage of facilitating the integration of regional businesses into innovation clusters is achieved.

Primarily, it is necessary to focus attention on identifying and taking into account key factors that contribute to the innovative development of regional systems, which requires the presence of the relevant infrastructure, innovative enterprises and highly qualified personnel. The next step is the development and implementation of strategies aimed at supporting innovative initiatives and increasing the competitiveness of enterprises. The formation of a system of funding and support for innovative ideas will promote interaction between participants and take into account the latest solutions. Moreover, it is important to consider the individual features of the region and its industries when formulating innovation development strategies (Zarichna, 2021).

Innovation potential and innovation climate reflect the amount of resources and conditions for the introduction of innovations in the economic system. In addition, innovation activity and infrastructure are significant indicators of the innovation system's state, which is determined by an integrated structure such as an innovation cluster (Karpenko et al., 2022). The efficiency of innovation activity acts as a complete indication of the implementation of the innovation process at the level of the region and cluster, and such a structure facilitates interaction between players in the process of innovation implementation. In addition, the creation of an innovative environment is conditioned by the influence of various factors that can both stimulate innovative activity and act as limiting factors for developing the innovative system. These factors include the scientific activity of the region, state support for innovation, infrastructure supporting innovation as well as the level of competitiveness and others (Kramer et al., 2022).

It is also important to take into account the factors inhibiting the development of the innovative environment, such as the low attractiveness of the region for investments, the lack of demand for innovations, difficulties in implementing innovative development programs, and others. These challenges could be brought on by the region's low level of innovative receptivity, the incoherence of industry, government, and scientific initiatives, or a lack of funding. Consistency and cooperation of all parties, as well as the use of various tools, become key factors for creating an effective innovation environment and developing the innovation system in the region (Table 1).

Table 1. Tools determining the innovation environment of the cluster

Innovative tools	Components of an innovative environment
Organization of innovative activities	Organizational support
Development and implementation of innovations	Infrastructural support
Financing innovative activities	Investment security
Stimulation of innovative	Regulatory and legal support

activity	
Technological transfer tools	Commercialization of technologies
Intellectual property protection tools	Scientific and legal support

Source: Compiled by the author based on (Mekhovich, 2019)

Therefore, the innovative system implements effective tools at different levels (macro-, meso- and micro-levels) by involving participants in its integrated structures. Instruments for establishing and enhancing the cluster's innovation environment help raise the standard of the innovation area and prevent or address regional issues that impede its quick development. In general, an effective innovation environment is considered a competitive network system that provides tax benefits, guarantees support from the state and the private sector and has a developed system of communications and relationships. The implementation of innovative projects and stimulation of innovative activities are monitored in this environment (Bugil, 2023).

Currently, globalization processes influence the development of innovation clusters both positively and negatively, causing new challenges for the competitiveness of various industries. Thus, clusters that become part of global production chains and gain access to global resources may be vulnerable to global changes and long-term crisis phenomena (Franko, 2023).

In Ukraine, cluster efforts should be launched in light of the country's shift to a digital economy and the creation of smart specialization in regional development plans. The development of clusters that are formed "from below" with a full understanding of the benefits of cooperation between participants becomes especially significant.

For instance, in September 2020, Zaporizhzhia launched an initiative to create a professional association of entrepreneurs, scientists, business associations, etc. Such an initiative was initiated by the Memorandum of Cooperation between the Association of Industrial Automation of Ukraine (APPAU) and the Zaporizhzhia Chamber of Commerce and Industry (ZTPP), as well as with the participation of Zaporizhzhia Polytechnic University. In the future, the German government has ordered the public organization Zaporizhzhia Cluster "Engineering-Automation-Mechanical Engineering" to be established, with a focus on the growth of high-tech industries, with the help of APPAU and the German company "Deutsche Gesellschaft für internationale Zusammenarbeit" (GIZ) (UCCI, 2022).

Consequently, the Zaporizhzhia cluster "IAM" has successfully united and continues to attract leading companies and specialists of the region in the fields of industrial engineering, automation, information technologies and mechanical engineering. The main goal of the cluster is to increase the economic potential of the Zaporizhzhia region by strengthening competitiveness and stimulating the development of the region's innovative ecosystem in high-tech industrial sectors.

It should be noted that the territorial integration of scientific and educational institutions with a network of specialized suppliers, key producers and consumers interacting in the technological chain is aimed at accelerating and making more efficient the process of spreading innovations, such as new discoveries and inventions, in a particular economic subsystem (Karpenko et al., 2018). This approach involves close interaction between various links of the technological chain, which is supported by active participation and cooperation with state administration bodies and the public. As a result of such integration, conditions are created for the progressive development of the region, which is based on interaction between science, education, production and consumption, contributing to sustainable and innovative growth.

## 5 Discussion

We agree with the opinion of Boyko O. M. (2022) since his study identifies important aspects of the functioning of clusters and emphasizes their modern role as a form of enterprise integration. The author carefully examines the features of developing clusters in different parts of the world, paying attention to the unique features of each specific cluster. The author also examines the issue of financing the creation and development of aviation clusters in Ukraine, determining that these aspects are mainly focused on budgetary resources or investor resources, and this issue is crucial in the successful implementation of cluster initiatives.

We agree with the standpoint of Bogashko O. L. (2021) since his scientific work clearly highlights the main trends in the development of the modern regional economy caused by globalization, informatization and post-industrial innovative development. The scholar pays special attention to clustering as an important strategy, defined through the creation of regional and interregional clusters. The study emphasizes that clusters are considered as key inter-sectoral complexes that determine the development of the information economy in modern conditions. The analysis's primary outcome is that integrating social institutions and related industries is a crucial component of raising competitiveness at both the national and regional levels.

We partially agree with the viewpoint of Karpenko A. V., Karpenko N. M. (2022) because they determined the basis of the formation and effective functioning of the cluster through fostering trust and responsibility between its participants, as well as the importance of tolerance and solidarity in society. At the same time, they correctly pointed out that the conditions of market monopolization, a low level of business ethics, and a limited legal culture for a long time limited the full use of the potential of the national economy. Along with this, we believe that the integration of interconnected industries and interdependent social institutions is crucial for a thorough understanding of how clusters function. Moreover, it is a major factor in boosting the competitiveness of both the national and regional economies. Such integration is able to create favorable conditions for the gradual development of the region and the implementation of the competitive advantages of clusters.

## 6 Conclusions

Examining the way globalization affects the geographical growth of innovation clusters is an essential task provided the current problems of economic globalization and the swift advancement of creative technology. Currently, globalization processes, while bringing new opportunities for development, also create new challenges and threats. Access to global resources is made possible by the successful integration of innovation clusters into global production chains; however, accomplishing this also necessitates flexibility to changes in the global economic environment.

Innovation clusters have the potential to play a significant role in the global economy, which would accelerate the spreading of innovation and boost competitiveness. In particular, the territorial integration of scientific and educational institutions with the network of suppliers and manufacturers creates prerequisites for the effective dissemination of new knowledge and technologies. However, given the global and long-term challenges, clusters should be flexible and adaptable, taking into account the variables in the global environment. Managing the competitiveness and sustainability of clusters requires a strategic approach and the readiness to introduce innovations in all aspects of their activities.

Thus, globalization defines a new context for the development of innovation clusters, and only effective interaction, management and adaptation can ensure a sustainable increase in the competitiveness of innovation clusters in regional development.

## Literature:

1. Artyomov, D.Yu., Khudeeva, K.K.: The formation of a smart economy: the policy of creating innovative and educational clusters. *Materials of the 8th International Scientific and Practical Conference "Strategies of Global Competitiveness: Socio-Economic Dimensions"*. MES of Ukraine. ChSTU, 2021, 95-97.
2. Artyomov, D.Yu., Yakushev, O.V., Bilyk, A.V.: Economic policy of creation innovative and educational clusters as a tool for forming a smart economy. *Collection of scientific works of DonSUU: "Problems and prospects of ensuring stable socio-economic development"*. Series "Economics", 2019, XX, 314. 210–222 p.
3. Bechko, P.K., Lysa, N.V.: The practice of forming and developing industrial clusters: foreign and domestic experience. *The 2nd International scientific and practical conference "Science and technology: problems, prospects and innovations"* (November 17-19, 2022). CPN Publishing Group, 2022, 606-613.
4. Bogashko, O.L.: The formation of clusters is one of the trends in the field of regional innovative development. *Materials of the International. science and practice conference* (June 23-24), MNAU, 2021, 44-46.
5. Boyko, O.M.: Actual issues of the development of innovative processes in the conditions of globalization. *Materials of the 8th All-Ukrainian Scientific and Practical Conference*, Kyiv, December 2. Borys Hrinchenko Kyiv University, 2020, 13-18 p.
6. Boyko, O.M.: Innovative imperatives of the post-war development of Ukraine in the conditions of globalization. *A collection of scientific works of the international scientific and practical seminar* (Kyiv, May 19). NAS of Ukraine, State University "Institute of Economics and Forecasting of the NAS of Ukraine". LLC "NVP "Interservice", 2022, 77-83 p.
7. Bugil, S.: *Tourist clusters of Ukraine: status and prospects: materials of the Scientific and Practical Internet Conference* (May 17), Lviv National Environmental University, 2023, 156-159.
8. *Cabinet of Ministers of Ukraine*. Resolution "On approval of the State Strategy for Regional Development for 2021-2027", 2020. <https://dei.kyivcity.gov.ua/content/derzhavna-strategiya-regionalnogo-rozvytku-na-20212027-roky.html>
9. Franko, L.S.: Assessment of potential opportunities for innovative development of the national economy at the regional level using artificial intelligence tools. *Economy and society*, 2023, 47, 11. <https://doi.org/10.32782/2524-0072/2023-47-92>
10. Horobynska, M.V.: Features of the functioning and development of innovation clusters and their impact on the competitiveness of the economy. *Materials of the International Scientific and Practical Internet Conference* (November 19, 2021). Sole proprietor "Liburkin L.M.", 2021, 172-175.
11. Karpenko, A.V., Karpenko, N.M.: Clusters as a form of ensuring the innovative development of the region. *A collection of scientific papers of the international scientific and practical seminar*. State University "Institute of Economics and Forecasting of the NAS of Ukraine". LLC "NVP "Interservice", 2022, 204-207.
12. Karpenko, A.V., Karpenko, N.M.: Managerial mechanism of cluster development in Ukraine as special form of business communities, 2023, 2(50), 61-75. <https://doi.org/10.31558/2307-2318.2023.2.6>
13. Karpenko, A.V., Sevastyanov, R.V.: Development trends of the cluster movement in the economy of Ukraine. *Economic bulletin of the state higher educational institution "Ukrainian State Chemical and Technological University"*, 2022, 2, 144-157.
14. Karpenko, A.V., Zazorina, G.V.: *Increasing the level of innovativeness of the economy under the conditions of cluster development. Professional management in modern conditions of market development*. Materials of reports of the VII scientific and practical conference with international participation, 2018, 108-110 p.
15. Kramer, J., Komendzinski, M.-K., Haldiga, L., Welford, M., Schmidt, F.: Summary report on cluster policies and programs in Europe and priority third countries. *European Cluster*

*Collaboration Platform*, 2022, 87. <https://clustercollaboration.eu/content/european-cluster-conference-2022-0>

16. Lazarenko, D.O.: Synergistic points of potential integration of multifunctional cluster systems. *Economic Herald of the Donbas*, 2022, 2(68), 59-65.

17. Mekhovuch, S.: Analysis of cluster forms of interaction of industrial enterprises. Energy saving. "Energy saving. Energy. Energy audit", 2019, 1(149), 80-91.

18. Neboga, T.V., Magats, N.S.: Clusters as "drivers" of innovative development of regions of Ukraine. *The XXVII International Science Conference «Multidisciplinary academic research and innovation»* (May 25), 2021, 153-157 p. <https://doi.org/10.46299/ISG.2021.I.XXVII>

19. Petrenko, O.I., Potapovska, M.O.: Theoretical approaches to defining the concepts of "cluster", "transport and logistics cluster", "port cluster". *Development of transport*, 2021, 1(8), 16-25.

20. Rykov, V.V.: The impact of globalization processes on Ukraine's economic security. *Law and public administration*, 2020, 204-210 p. <https://doi.org/10.32840/pdu.2020.2.31>

21. Savytska, N., Kashchena, N., Chmil, H., Muda, I., Olinichenko, K.: Entrepreneurial characteristics as factors of human development. *International Journal of Entrepreneurship*, 2021, 25(6), 1-9. <https://www.abacademies.org/articles/entrepreneurial-characteristics-as-factors-of-human-development.pdf>

22. Smerichevska, S.V.: Strategic role of cluster structures for innovative development of national economies: European practice. *I International Scientific and Practical Conference "Business, Innovations, Management: Problems and Prospects"*, 2020, 72-73.

23. Sushchenko, O.A.: Strategic development of regional clusters in conditions of global competition. *Bulletin of the Volodymyr Dahl East Ukrainian National University*, 2017, 10, 150-153. [http://nbuv.gov.ua/UJRN/VISUNU\\_2017\\_10\\_31](http://nbuv.gov.ua/UJRN/VISUNU_2017_10_31)

24. Ukrainian Chamber of Commerce and Industry (UCCI). Zaporizhzhia cluster "Engineering - Automation - Mechanical Engineering" (IAM) unites the leading companies of the region, 2022. <https://ucci.org.ua/press-center/business-news/zaporizkii-klaster-inzhiniring-avtomatizatsiia-mashinobuduvannia-iam-obiednuie-providni-kompaniyi-regionu>

25. Ursakiy, Yu.A.: The innovation clusters role in the country industry. *Bulletin of the Chernivtsi Institute of Trade and Economics*. Economic Sciences, 2021, 1(81), 53-70 p.

26. Zarichna, N.Z.: The mechanism of financial and economic support for the functioning of financial clusters. *Eastern Europe: economy, business and management*, 2021, 31. 106-111.

**Primary Paper Section: A**

**Secondary Paper Section: AH, BD, JD**