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Periodicity of publication: Quarterly

The journal activity is driven by the following objectives:

- Broadcasting young researchers and scholars outcomes to wide scientific audience
- Fostering knowledge exchange in scientific community
- Promotion of the unification in scientific approach
- Creation of basis for innovation and new scientific approaches as well as discoveries in unknown domains

The journal purposefully acquaints the reader with the original research of authors in various fields of science, the best examples of scientific journalism.

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Subclass T / T55.4-60.8	Industrial engineering. Management engineering
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Articles should be accompanied by an annotation and key words in the language of the main text and must be in English. The abstract should be made in the form of a short text that reveals the purpose and objectives of the work, its structure and main findings. The abstract is an independent analytical text and should give an adequate idea of the research conducted without the need to refer to the article. Abstract in English (Abstract) should be written in a competent academic language.

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FORMATION OF COMPETITIVENESS OF ENTERPRISES IN MODERN ECONOMIC CONDITIONS

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Annotation: *The sources and mechanisms of formation of competitiveness of enterprises in modern economic conditions are studied in this article. The resource approach of the mechanism of formation of steady competitive advantages, which is to increase the differences of economic behavior of enterprises, that is the formation of its unique core competencies, is considered. The process of formation of competitive advantages of the enterprise from the point of view of the oriented approach, which is subject to increasing its market value, is investigated. The article brings the features of the institutional approach, according to which competitiveness of the enterprise depends on a level of development of the existing economic institutes forming an institutional environment, in which the subject of economic activity operates. Particular attention is paid to the cluster approach, as the cluster is currently understood as the association of enterprises of interconnected sectors of the economy, which, as a result of intra-cluster interaction, have a positive impact on the level of competitiveness of each of its participants.*

Key words: *competitiveness of enterprises, competitive advantages*

Introduction. Nowadays the problem of increasing the competitiveness of enterprises is one of the most urgent tasks in the economy. One of the most important factors determining the development of the form and methods of competition is globalization.

In the process of globalization, the competition between enterprises for markets for their goods, foreign investment, innovation and the new technologies has deteriorated. Globalization is an irreversible process, that changes the conditions of economic activities in enterprises significantly. The result of the competition mechanism is the selection of producers of goods based on their competitiveness, ownership of key resources, competencies. Consequently, the problem of ensuring the competitiveness of domestic enterprises in the new conditions, defined by the process of globalization, arises.

Increasing the competition between enterprises in different markets has raised the question of studying the main characteristics of competitive development of enterprises, the main factors influencing their competitiveness and opportunities to increase it.

The publications of E. Bergman, Y. Arutyunov, B. Burkinsky, E. Belyakova, B. Garret, I. Pylypenko, V. Goblyk, M. Voynarenko, L. Gontarzhevskaya, P. Hudz, O. Deineka, B. Danylyshyn, N. Martysenko, P. Krugman and others have studied the questions of organisation and development of clusters. Based on their research, the main objects of cluster groups and market infrastructure have been formed.

Thus, the development of a system for forming the competitiveness of enterprises, the creation of methods for evaluation of the competitiveness of enterprises and the



development of measures to increase the competitiveness of enterprises in the context of globalization are becoming relevant.

Main text. The level of competitiveness of each enterprise is determined by a certain set of its competitive advantages. The importance of increasing the level of competitiveness is mainly determined by the sources and mechanisms of formation of the advantages of the enterprise in modern economic relations. Interest towards the formation of the mechanism of steady competitive advantages of enterprise is due to the fact, that it is the basis of the increase and development of the competitiveness of each enterprise. However, today, the process of forming the competitive advantages is mainly viewed from the side of theory of international trade.

In the context of European integration and globalization, the process of forming competitive advantages of the enterprise is considered on the basis of resource approach, focused management, institutional environment and cluster formation [1, p. 13-14].

The postulate of the resource approach is the concept of uniqueness of each enterprise, according to which the main factor of gaining competitive advantages is the comparison of enterprise activities to the data of similar enterprises, operating in the same sector of the economy. In this way, in the resource approach, the mechanism for the formation of steady competitive advantages is to increase the differences in economic behavior of enterprises, that is the formation of its unique core competencies. The main factor in the process of the formation of competitive advantages of the enterprise is the comparison of performance indicators to the data of similar enterprises [2, p. 88-89].

Moreover, the resource approach together with the stable development of the company's capabilities, is affecting directly the mechanism of formation of steady competitive advantages, search for the new types of the resources, which in its turn affects the uniqueness and value of the product portfolio of the enterprise. Therefore, the main source of formation of competitive advantages of the enterprise is its ability to determine key competencies and resource base. The stated factors have the direct influence on the consumer's behavior not only of a specific enterprise, but also of the corresponding sector of the economy, which is produced by the dynamism and variability of the economic condition of the country.

The process of formation of competitive advantages of the enterprise from the point of view of oriented approach is determined by increasing its market value. Factors that influence the level of competitiveness are the strategy of long-term development, improvement of business methods, the introduction of a system of staff motivation. In the future, this will increase the company's value and increase the value of its product portfolio, as the production and realisation of the products is done not only within one industry, but in several industries simultaneously [3, p. 160].

However, despite the fact that the consistent solution of all these problems can increase the value of the enterprise, it is impossible to trace the direct link between the realization of all these measures and the increase of the product's value for consumers in target markets. Moreover, using all these instruments involves the implementation of



large-scale initiatives in the framework of developing the potential of human resources, that requires a large amount of costs, which can include both fixed and recurring costs. In this case, when implementing such large-scale projects for carrying out the changes, there may be a decrease in the cost and financial stability of the enterprise for some time [4, p. 43; 5, p. 65; 6, p. 145].

According to the supporters of the institutional approach, the competitiveness of the enterprise depends on the level of development of existing economic institutions, that form the institutional environment, in which the subject of economic activity operates. Furthermore, institutions as approved norms of interaction between economic agents; reducing the uncertainty of the external economic environment by forming a certain structure of relations and interactions between them, determine their behavior in particular in the process of competition.

Based on the generalization of existing theoretical and practical sources devoted to the consideration of various characteristics of the institutional approach, we can identify a number of its properties, that have a direct impact on the competitive position of enterprises:

- the level of development of the target market, that determines the level of competition of the enterprises which produce and sell similar types of products;
- the level of competence of state institutions, that use different instruments to regulate the behavior of market agents on the markets of the presence of enterprises, including various preferences related to the provision, starting from the placement of government orders and tax benefits and ending with direct budget infusions;
- formation of an innovative environment conducive to the development of new types of the products, especially in priority areas;
- system of socio-cultural factors that form the type of the behavior of economic agents - participants in market competition in the markets of presence [7, p. 20-21; 8, p. 148; 9, p. 260-262; 10, p. 90].

Increasing the dynamism of the external economic environment (for example political and market factors), leads to changes in the system of institutions that was formed, and changes the system of relations between the economic agents as well as their competitive position in the target market. Consequently, the importance of institutional environment in the process of conducting financial and economic activities cannot be denied.

However, it is impossible to determine empirically how the system of economic institutions and their transformation influences the competitiveness of individual economic agents, as the changes that occur affect all the business entities.

According to the cluster approach, a cluster today is understood as a unification of enterprises of interconnected sectors of the economy, that as a result of the system of intracluster interaction has a positive impact on the level of competitiveness of each of its members [11, p. 231; 12, p. 220; 13, p. 202-204; 14, p. 175].

Enterprise, that is the founder of the cluster, has certain competitive advantages in the market, and therefore transfers them to all its counterparties. Counterparties that use



the competitive advantages of the enterprise-founder of the cluster are consumers of products and services, suppliers, business partners. Thus, the requirements for the quality of raw materials and supplies, components, level of service, semi-finished products, which in turn are consumed in the process of production and provision of services, increase. In the future, it leads to the improvement of parameters of the enterprise, the quality of services provided, and thus allows the development of existing competitive advantages.

The system of interaction formed in this way stimulates the increase of competitiveness of enterprises of related industries, that in the process of conducting economic activity consumes high-quality products manufactured at the enterprise, which is the founder of the cluster. As a result, there is a significant improvement in all economic indicators throughout the cycle of interaction in the enterprise, in particular, suppliers of raw materials and semi-finished products, manufacturers and sellers of the products. As a result, there are positive changes in the quality of consumed products and services of the enterprise, which increase the level of satisfaction of the target market. Likewise, improving the quality parameters of goods and services produced within the cluster makes a positive impact on the business behavior of direct competitors, who have to use more complex methods of competition. Within each cluster, the enterprises that specialize in the production of goods and provision of services devoted to the same market segment and competing to increase its part, have to constantly adapt to improving product quality requirements and to conditions of conducting the economic activities. Which in turn can lead to the formation of a general business idea [15, p. 226; 16, p. 223; 17, p. 209-210].

The stated competitive strategies allow domestic companies, that produce the same type of product, to apply a single strategy to conquer foreign markets, which in turn increases their chances of entering the market segment. Moreover, the participants in the chain, in their turn, influence the level of competitiveness of the enterprise, which is the founder of the cluster.

Therefore, when creating a cluster, the so-called chain reaction is revealed, when within the framework of a cluster unification a certain set of competitive entities is created, to which we can include suppliers, enterprises, producers, consumers. A process of stimulation and application of perspective technologies, improvement of methods of conducting economic activity, modernization of production processes occurs. Carrying out similar changes in the internal economic environment of enterprises, which is a part of the external business environment of all enterprises that are members of the cluster unification, helps to increase the efficiency of their economic activities.

Enterprises, that entered the cluster unification, have additional opportunities for increasing efficiency and effectiveness by using, for example, specialized factors of production supplied by local producers, based on the use of transfer pricing methods, which in its turn leads to a decrease in variable costs. Supply of necessary resources within one industrial cluster increases efficiency of all economic process, creates conditions for improvement of process of the organization of its service. Apart from



that, as a result of coordination of efforts, complementary within cluster unifications, all its participants have new opportunities to increase productivity. Moreover, as practice shows, that clusters have more opportunities to carry out joint marketing activities (trade and industrial exhibitions, advertising communications), a specific and intra-cluster infrastructure is formed in a shorter time, including innovation, research and development centers, industrial laboratories, technology parks and others. The development of such infrastructure, together with investments from the state budget, is supported by financial resources provided by the members of the cluster unification. Within the framework of intra-cluster interaction, the participating enterprises (especially those that are direct competitors) provide an opportunity to constantly compare the achieved economic indicators, that has a positive effect on the competitiveness of enterprises-competitors in one cluster.

Further, clusters stimulate the emergence of different types of innovations, as participating enterprises respond quicker to consumer demand in target market segments thanks to close productive relationships. The general factors of the competitive environment for the enterprises which are a part of a cluster force them to develop the available competitive advantages, different from advantages of direct competitors in the target markets, or separate market segments. This pressure regularly leads to the emerge of innovative types of products and services.

Cluster also contributes to the formation of new economic activities, as there is the reliable information about the undeveloped market segments. In turn, within the cluster, barriers to market entry are lower, which significantly reduces the risk of creating a new type of activity.

It should be noted, that within the clusters there are special mechanisms that promote effective mutual exchange of information and coordinate the interests of the participating enterprises.

The first should include:

- economic relations that are formed within the framework of professional communities and research and production associations;
- cooperation and production ties that have historically developed as a result of a certain territorial proximity of enterprises - members of the cluster unification;
- sectoral structures that protect the economic interests of cluster members;
- models of economic behavior of economic structures, such as the focus on productive and long-term cooperation.

The second group includes:

- stable partnerships between enterprises, their owners and management;
- the presence of a percentage of ownership within the cluster unification.

The process of forming and development of competitive advantages within cluster unifications is conducted with the help of:

- increase of the efficiency of selected enterprises;
- increase of the ability to innovations of all members of the cluster;
- stimulation of the development of new economic directions.



Conclusions and suggestions. Thus, the cluster approach is of the greatest interest for increasing the competitiveness of domestic enterprises, as it combines forward-looking provisions of other concepts of forming sources of competitive advantages in terms of previously identified competitive positions. Consequently, the implementation of cluster strategies is one of the most promising mechanisms for the formation of competitive advantages of enterprises.

Nowadays, enterprises must make serious efforts to form, maintain and develop competitive advantage. It requires the detailed study and practical use of the main principles, generalized in modern theory of competitiveness. The following principles should be highlighted:

- the necessity for continuous modernisation of all economic processes and improvement of working procedures throughout the chain of movement of the product (product portfolio) of the enterprise;
- analysis of the existing and identification of the most forward-looking sources of competitive advantages, that can be used in the process of increasing the general level of competitiveness of the enterprise;
- use of the systematic approach to create and develop the competitive advantages at all stages of operation of the enterprise, starting with development, production and ending with promotion and sale of new types of products;
- creation and consistent implementation of the strategy of competitiveness development based on the use of the cluster approach.

The perspective of using the cluster approach to increase the competitiveness of enterprises is due to the fact, that the solution of this complex problem lies in the plane of forming a special system of interaction of economic structures, scientific and educational organizations, government administration bodies.

References.

1. Nebava MI, Buriennikov YY, Bershov DM (2010) Innovatsiino-investytsiini aspekty pidvyschennia konkurentospromozhnosti ekonomiky rehioniv [Innovative investment aspects of increase of competitiveness of economy of regions]. *Visnyk Vinnytskoho politekhnichnoho instytutu*, no. 5, pp. 12-15.
2. Hrischenko IV, Biletska NV, Klividenko LM, Tsyhanchuk VA (2015) Otsinka innovatsiinykh klasternykh proektiv [Estimation of innovative cluster projects]. *Torhivlia, komertsii, pidpriemnytstvo*, no. 19, pp. 86-89.
3. Hrischenko IV, Biletska NV, Klividenko LM (2016) Investytsiino-innovatsiinyi rozvytok pidpriemstv v umovakh systemnykh peretvoren [Investment-innovative development of enterprises is in the conditions of system transformations]. *Visnyk Lvivskoi komertsii akademii. Serii ekonomichna*, no. 50, pp. 157-161.
4. Buriennikov YY (2007) Formuvannia struktury mekhanizmu upravlinnia innovatsiinoiu diialnistiu [Forming of structure of mechanism of management innovative activity]. *Visnyk Vinnytskoho politekhnichnoho instytutu*, no. 3, pp. 42-45.
5. Hrischenko IV, Biletska NV, Tsyhanchuk VA (2017) Faktory aktyvizatsii



investytsiinoi pryvablyvosti pidpriumstv [Factors of activation of investment attractiveness of enterprises]. *Pidpriumnytstvo i torhivlia*, no. 22, pp. 64-76.

6. Hrischenko IV, Balakhonova OV (2016) Systema zabezpechennia investytsiino-innovatsiinoi diialnosti pidpriumstv [System of providing of investment-innovative activity of enterprises]. Proceedings of the *Shliakhy aktyvizatsii innovatsiinoi diialnosti v osviti, nautsi, ekonomitsi (Ukraine, Vinnytsia, April 12, 2016)*, Vinnytsia: Krok, pp. 145-147.

7. Polischuk NV (2009) Teoretychni pidkhody do vyznachennia sutnosti innovatsii [The theoretical going is near determination of essence of innovations]. *Halytskyi ekonomichnyi visnyk*, no. 1 (22), pp. 20-23.

8. Hrischenko IV, Denysiuk OM (2016) Strukturna model investytsiino-innovatsiinoho potentsialu pidpriumstva [Structural model of investment-innovative potential of enterprise]. Proceedings of the *Shliakhy aktyvizatsii innovatsiinoi diialnosti v osviti, nautsi, ekonomitsi (Ukraine, Vinnytsia, April 12, 2016)*, Vinnytsia: Krok, pp. 147-149.

9. Polischuk NV (2010) *Funktsionuvannia ekonomichnykh system: modeli skladovykh rezultatyvnosti* [Functioning of the economic systems: models of constituents of effectiveness]. Vinnytsia: VNAU (In Ukrainian).

10. Yarmolenko VO, Polischuk NV (2012) Skladovi rezultatyvnosti funktsionuvannia skladnykh system yak obiekty modeliuвання [Constituents of effectiveness of functioning of the difficult systems as design objects]. *Visnyk Cherkaskoho universytetu. Seriya - Ekonomichni nauky*, no. 33(246), pp. 86-93.

11. Voloshyna OV, Ivaschenko AV, Molochenko VV (2019) Rozvytok muzeinoho potentsialu turystychnoi diialnosti [Development of museum potential of tourist activity]. *Naukovyi zhurnal «Molodyi vchenyi»*, no. 5(69), pp. 230-234.

12. Voloshyna OV, Manzhos EO (2020) Orhanizatsiina model proektuvannia turystychnoho klastera [Organizational model of planning of tourist cluster]. *Naukovyi zhurnal «Molodyi vchenyi»*, no. 3(79), pp. 218-221.

13. Voloshyna OV, Manzhos EO (2020) Ekonomichnyi potentsial pidpriumstv hotelno-restorannoho ta turystychnoho sektoru [Economic potential of enterprises hotel-restaurant and tourist a sector]. *Collection of scientific articles "The world of science and innovation"*. August. London: Cognum Publishing House, United Kingdom. 2020. pp. 201-210.

14. Yarmolenko VO, Polischuk NV (2008) Skladovi rezultatyvnosti ekonomichnoho protsesu: paradyhma kilkosti ta yakosti [Constituents of effectiveness of economic process: paradigm of amount and quality]. Proceedings of the *Rynky tovariv ta posluh Ukrainy v umovakh ekonomichnoho zrostannia (Ukraine, Vinnytsia, September 11, 2008)*, Vinnytsia, pp. 173-178.

15. Buriennikova NV, Yarmolenko VO, Kavetskyi VV (2020) Teoretyko-prykladni aspekty upravlinnia efektyvnistiu investytsii promyslovykh pidpriumstv z pozytsii steikholderskoi teorii: sutnist, pokaznyky [Theoretical and applied aspects of management of investments of industrial enterprises efficiency are from positions of



stakeholder theory: essence, indexes]. *BIZNES INFORM*, no. 1, pp. 218-229.

16. Hrischenko IV, Kobal OA (2020) Otsinka pokaznykiv v protsesi finansovoho planuvannya pidpryiemstva [An estimation of indexes is in the process of the financial planning of enterprise]. Proceedings of the *Perspektyvy rozvytku finansovo-ekonomichnoho prostoru Ukrainy (Ukraine, Vinnytsia, April 08-09, 2020)*, Vinnytsia: Krok, pp. 223-225.

17. Hrischenko IV (2020) Otsinka pokaznykiv finansovoi stiikosti pidpryiemstva [Estimation of indexes of financial firmness of enterprise]. Proceedings of the *Perspektyvy rozvytku finansovo-ekonomichnoho prostoru Ukrainy (Ukraine, Vinnytsia, April 08-09, 2020)*, Vinnytsia: Krok, pp. 208-211.

Література:

1. Небава М.І., Буренніков Ю.Ю., Бершов Д.М. Інноваційно-інвестиційні аспекти підвищення конкурентоспроможності економіки регіонів. *Вісник Вінницького політехнічного інституту*. 2010. № 5. С. 12-15.

2. Гріщенко І.В., Білецька Н.В., Клівіденко Л.М., Циганчук В.А. Оцінка інноваційних кластерних проектів. *Торгівля, комерція, підприємництво*. Львів, 2015. № 19. С. 86-89.

3. Гріщенко І.В., Білецька Н.В., Клівіденко Л.М. Інвестиційно-інноваційний розвиток підприємств в умовах системних перетворень. *Вісник Львівської комерційної академії. Серія економічна*. Львів, 2016. № 50. С. 157-161.

4. Буренніков Ю.Ю. Формування структури механізму управління інноваційною діяльністю. *Вісник Вінницького політехнічного інституту*. 2007. № 3. С. 42-45.

5. Гріщенко І.В., Білецька Н.В., Циганчук В.А. Фактори активізації інвестиційної привабливості підприємств. *Підприємництво і торгівля*. Львів, 2017. № 22. С. 64-76.

6. Гріщенко І.В., Балахонова О.В. Система забезпечення інвестиційно-інноваційної діяльності підприємств. *Шляхи активізації інноваційної діяльності в освіті, науці, економіці: зб. наук. праць*. 2016. Вінниця. Т 1. С. 145-147.

7. Поліщук Н.В. Теоретичні підходи до визначення сутності інновацій. *Галицький економічний вісник*. 2009. № 1 (22). С. 20-23.

8. Гріщенко І.В., Денисюк О.М. Структурна модель інвестиційно-інноваційного потенціалу підприємства. *Шляхи активізації інноваційної діяльності в освіті, науці, економіці: зб. наук. праць*. 2016. Вінниця. Т1. С.147-149.

9. Поліщук Н.В. Функціонування економічних систем: моделі складових результативності: монографія. Вінниця: ВНАУ, 2010. 396 с.

10. Ярмоленко В.О., Поліщук Н.В. Складові результативності функціонування складних систем як об'єкти моделювання. *Вісник Черкаського університету. Серія - Економічні науки*. Черкаси: ЧНУ. 2012. – № 33(246). С. 86-93.

11. Волошина О.В., Іващенко А.В., Молоченко В.В. Розвиток музейного потенціалу туристичної діяльності. *Науковий журнал «Молодий вчений»*. 2019. № 5(69). С. 230-234.

12. Волошина О.В., Манжос Е.О. Організаційна модель проектування туристичного кластера. *Науковий журнал «Молодий вчений»*. 2020. № 3(79). С. 218-221.

13. Волошина О.В., Манжос Е.О. Економічний потенціал підприємств готельно-ресторанного та туристичного сектору. Collection of scientific articles "The world of science and innovation". 2020. August. London: Cognum Publishing House, United Kingdom. 2020. P. 201-210.

14. Ярмоленко В.О., Поліщук Н.В. Складові результативності економічного процесу: парадигма кількості та якості. *Ринки товарів та послуг України в умовах економічного зростання: збірник наукових праць міжнар. наук.-практ. конф., 11 вересня 2008 р.*



Вінниця, 2008. С. 173-178.

15. Буреннікова Н.В., Ярмоленко В.О., Кавецький В.В. Теоретико-прикладні аспекти управління ефективністю інвестицій промислових підприємств з позицій стейкхолдерської теорії: сутність, показники. БІЗНЕС ІНФОРМ № 1. 2020. С. 218-229.

16. Гріщенко І.В., Кобаль О.А. Оцінка показників в процесі фінансового планування підприємства. *Перспективи розвитку фінансово-економічного простору України*: зб. наук. праць. Вінниця. 2020. С. 223-225.

17. Гріщенко І.В. Оцінка показників фінансової стійкості підприємства. *Перспективи розвитку фінансово-економічного простору України*: зб. наук. праць. Вінниця. 2020. С. 208-211.

Анотація: На сьогоднішній день проблема підвищення конкурентоспроможності підприємств є однією з найбільш актуальних завдань в економіці. Одним з найважливіших факторів, що визначають розвиток форми і методів конкурентної боротьби, являється глобалізація. Посилення конкуренції між підприємствами на різних ринках збуту поставило питання про дослідження основних характеристик конкурентоспроможного розвитку підприємств, основних факторів, що впливають на їх конкурентоспроможність і можливості її підвищення. Отже, актуальною стає розробка системи формування конкурентоспроможності підприємств, створення методики оцінки конкурентоспроможності підприємств і розробка заходів щодо підвищення конкурентоспроможності підприємств в умовах глобалізації.

В статті досліджені джерела і механізми формування конкурентних переваг підприємства в сучасних економічних умовах. Розглянуто ресурсний підхід механізму формування стійких конкурентних переваг, який полягає в збільшенні відмінностей економічної поведінки підприємств, тобто формуванні його унікальних основних компетенцій. Також, в статті відмічено, що ресурсний підхід у поєднанні з стійким розвитком здібностей підприємства напряму впливає на механізм формування стійких конкурентних переваг, пошук нових видів ресурсів, що у свою чергу впливає на унікальність та цінність продуктового портфелю підприємства. Досліджено процес формування конкурентних переваг підприємства з точки зору орієнтованого підходу, який обумовлюється збільшенням його вартості на ринку. Наведено особливості інституційного підходу, відповідно до якого конкурентоспроможність підприємства залежить від рівня розвитку існуючих економічних інститутів, що формують інституційне середовище, в якому діє суб'єкт господарської діяльності. Особлива увага приділена кластерному підходу, оскільки в даний час під кластером розуміють об'єднання підприємств взаємопов'язаних галузей економіки, які в результаті системи внутрішньокластерної взаємодії роблять позитивний вплив на рівень конкурентоспроможності кожного з його учасників. Відмічено, що кластерний підхід представляє найбільший інтерес для підвищення конкурентоспроможності вітчизняних підприємств, оскільки поєднує в собі перспективні положення інших концепцій формування джерел конкурентних переваг з погляду виявлених раніше конкурентних позицій. У зв'язку з цим, саме реалізація кластерних стратегій виступає як один з найбільш перспективних механізмів формування конкурентних переваг підприємств. В даний час, підприємства повинні зробити серйозні зусилля, спрямовані на формування, підтримку і розвиток конкурентних переваг. Це вимагає ретельного вивчення і практичного застосування основних принципів, узагальнених в сучасній теорії конкурентоспроможності.

Ключові слова: конкурентоспроможність підприємств, конкурентні переваги

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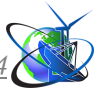
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