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## **MANAGEMENT OF INTER-FIRM COOPERATIVE RELATIONS WITH THE EXCHANGE OF INNOVATIONS BY ENTERPRISES OF UKRAINE**

**Serhii Kolodinskyi, Oleksii Hutsaliuk, Serhii Kramskyi.** *«Management of inter-firm cooperative relations for the exchange of innovations by enterprises of Ukraine».* The article deals with issues of development and introduction of innovative developments by Ukrainian enterprises. The categories "innovation" and "innovation process" are defined, the categorical features of economic indicators are indicated. The content of interfirm cooperative relations between enterprises regarding the transfer of innovative products is given. Definitions of the most significant and promising innovative products in the practical activity of manufacturing enterprises are given, which primarily include intellectual property objects, namely inventions, patents, know-how, trademarks and industrial designs. Along with material products, scientific and technical services are becoming especially widespread. The role of the latter is growing together with the transfer of technologies, which are practically tied to services of this kind, such as engineering, outsourcing, consulting and a complex of services before and after the sale of innovative products. The management of inter-company cooperative relations includes a number of such types of intellectual relations between specialists and manufacturers as scientific conferences, exhibitions, fairs, forums, personal professional contacts for the purpose of transferring knowledge, experience and joint developments in various research and design works. Such close cooperation of scientists and practitioners allows to produce high-tech products of various levels of complexity and to use a special technology transfer mechanism, which is the conclusion of

*license agreements. Licenses allow, on mutually beneficial terms, to use the achievements of scientific and technical progress and to attract a large number of interested parties both in the field of science and in the fields related to the application of scientific and technical developments in production into inter-company cooperative relations.*

**Keywords:** inter-company cooperative relations, innovation, innovation process, types of innovative products, knowledge-intensive goods, technology transfer, patent, license, know-how, license, engineering, outsourcing, consulting.

**Сергій Колодинський, Олексій Гуцалюк, Сергій Крамський. «Менеджмент міжфірмових коопераційних зв'язків з обміну інноваціями підприємствами України».** У статті розглядаються питання розвитку і запровадження інноваційних розробок українськими підприємствами. Пропонується визначення категорій «інновації» та «інноваційний процес», вказуються категоріальні особливості економічних показників. Наводиться зміст міжфірмових коопераційних зв'язків між підприємствами стосовно трансферу інноваційних продуктів. Надаються визначення найбільш вагомих та перспективних інноваційних продуктів в практичній діяльності виробничих підприємств, до яких відносять в першу чергу, об'єкти інтелектуальної власності, а саме винаходи, патенти, ноу-хау, товарні знаки та промислові зразки. Особливо розповсюдженими поряд з матеріальними продуктами стають і науково-технічні послуги. Роль останніх зростає разом із трансфером технологій, які практично прив'язані до послуг такого роду як інжиніринг, аутсорсінг, консалтинг та комплекс послуг до продажного та після продажного обслуговування інноваційних продуктів. Менеджмент міжфірмових коопераційних зв'язків включає і цілу низку таких видів інтелектуальних відносин між фахівцями та виробниками як наукові конференції, виставки, ярмарки, форуми, особисті професійні контакти з метою передачі знань, досвіду та спільних розробок в різноманітних науково-дослідних та досадно-конструкторських роботах. Така тісна співпраця науковців та практиків дозволяє виробляти високотехнологічну продукцію різного рівня складності та використовувати особливий механізм трансферу технологій яким є укладення ліцензійних угод. Ліцензії дозволяють на взаємовигідних умовах використовувати досягнення науково-технічного прогресу і залучати в між фірмові коопераційні зв'язки велику кількість зацікавлених сторін як у сфері науки, так і у сферах пов'язаних із застосуванням науково-технічних розробок у виробництві.

**Ключові слова:** міжфірмові коопераційні зв'язки, інновації, інноваційний процес, види інноваційних продуктів, наукомісткі товари, трансферт технологій, патент, ліцензія, ноу-хау, ліцензія, інжиніринг, аутсорсінг, консалтинг.

**Сергей Колодинский, Алексей Гуцалюк, Сергей Крамской. «Менеджмент межфирменных кооперационных связей по обмену инновациями предприятиями Украины».** В статье рассматриваются вопросы развития и внедрения инновационных разработок на украинских предприятиях. Предлагается определение категорий «инновации» и «инновационный процесс», указывается категориальные особенности экономических показателей. Приводится содержание межфирменных кооперационных связей между предприятиями относительно трансферта инновационных продуктов. Даются определения наиболее важных и перспективных инновационных продуктов в практической деятельности производственных предприятий, к которым относятся в первую очередь, объекты интеллектуальной собственности, а именно, открытия, патенты, ноу-хау, товарные знаки и промышленные образцы. Особенно распространенными наряду с материальными продуктами становятся и научно-технические услуги. Роль последних возрастает вместе с трансфертом технологий, которые практически привязаны к услугам такого рода как инжиниринг, аутсорсинг, консалтинг и комплекс услуг допродажного и послепродажного обслуживания инновационных продуктов. Менеджмент межфирменных кооперационных связей

*включает и целую сумму таких видов интеллектуальных взаимоотношений между специалистами и производителями как научные конференции, выставки, ярмарки, форумы, личные профессиональные контакты, с целью передачи знаний, опыта и совместных разработок в разнообразных научно-исследовательских и опытно-конструкторских работах. Такая тесная работа научных исследователей и практиков позволяет изготавливать высокотехнологичную продукцию разного уровня сложности и использовать особенный механизм трансферта технологий каким является заключение лицензионных соглашений. Лицензии позволяют на взаимовыгодных условиях использовать достижения научно-технического прогресса и втягивать в межфирменные кооперационные связи большое количество заинтересованных сторон – стейкхолдеров, как в сфере науки, так и в сферах связанных с применением научно-технических разработок в производстве.*

**Ключевые слова:** межфирменные кооперационные связи, инновации, инновационный процесс, виды инновационных продуктов, наукоемкие товары, трансферт технологий, патент, лицензии, инжиниринг, аутсорсинг, консалтинг

**Introduction.** Relevance of research. In the conditions of the transformation of the economy of Ukraine, innovative activity acquires an important importance. It is thanks to the introduction of new forms and methods of innovative activity that the rise and growth of industrial production becomes possible. Due to the expansion of the innovative market, enterprises increase their productivity, attract new reserves to the field of production and achieve high productivity indicators.

Innovative activity is a process that covers a wide range of activities of subjects of market relations, which include scientific and technical, production, marketing, entrepreneurial and social activities. Ultimately, they are focused on meeting specific social needs and lead to an increase in the standard of living of society.

Innovation and investment transformations have become a defining feature in the economy of Ukraine, which consists of a significant number of independent economic entities that appear as economic complexes. Manufacturing enterprises and their complexes become structural elements of the national economy and they reflect the processes of market development in the most concentrated form, taking into account the modern trends of scientific and technical progress and the further growth of the innovation process.

**Analysis of recent research and publications.** A significant contribution to economic theory on the problems of innovative development of enterprises, management of innovation processes and strategic management of innovations at the level of enterprises was made by well-known Ukrainian scientists, such as: Antonyuk L. [4], Amosha O., Bazhal Y. [6], Blank I., Beltyukov E., Burkynskyi B., Voynarenko V. [3], Galushkina T., Geets V. [11], Galchynskyi A. [10], Dubnytskyi V., Zablodska I., Zakharchenko V.I., Kovalenko M., Pashkevich M., Peresada A., Pochtovyuk A., Poruchnyk A., Rodchenko V., Savchuk V., Semenov V., Stepanov V., Shelepnytskyi P., Shcherbak V., Yakovets Yu. [8-11] and other famous scientists.

Famous foreign scientists made a significant contribution to the formation and development of theoretical and methodological provisions regarding the innovative and investment development of enterprises: Bracchi D., Weber A., Granberg A., Zhan K., Siebert H., Kristaller V., Laundhardt V., Lakhtin G., Loes A., Maiminas E., Mindeli L., Movsesyan A., Mollers F., Norton D., Ognivtsev S., Oparin V., Porter M., Predel A., Pchelintsev V., Fedosov V., Savona P., Soros D., Tunen J., Fonstein N., Hosaka N., Hoffman L. [2,5,7] and many other scientists.

**Highlighting unresolved parts of the general problem.** In the world economic literature, "innovation" is interpreted as the transformation of potential scientific and

technical progress into real, embodied in new products and technologies. The issue of innovations in our country has been developed for many years within the framework of economic studies of scientific and technological progress. The term "innovation" began to be actively used in the transitional economy of Ukraine both independently and to denote a number of related concepts: "innovative activity", "innovative process", "innovative solution", etc. However, in order to clarify the concept of "innovation", it is necessary to consider their essence and establish inter-firm cooperative relations between enterprises in the matter of delivery of innovative goods.

**Presentation of the main research material.** There are many definitions of innovation in the economic literature. For example, technical, economic, organizational, managerial, and other innovations are distinguished by content or internal structure. Such characteristics as the scale of innovations (global and local) are distinguished; parameters of the life cycle (selection and analysis of all stages and substages), as well as regularities of the implementation process.

According to the standards and recommendations of international organizations in the field of science statistics, an innovation is the final result of innovative activity, embodied in the form of a new or improved product introduced on the market, a new or improved technological process used in practical activities, or in a new approach to social services [1].

Thus, innovation is a consequence of innovative activity. The analysis of various definitions leads to the conclusion that the specific content of innovation consists of changes, and the main function of innovative activity is the function of change.

The Austrian scientist I. Schumpeter singled out five typical changes:

1. Use of new equipment, new technological processes or new market provision of production (buying - selling).

2. Introduction of products with new properties.

3. Use of new raw materials, usually of artificial origin.

4. Changes in the organization of production and its material and technical support.

5. Emergence of new sales markets.

In a number of sources, innovation is considered as a process. In this concept, it is recognized that an innovative innovation develops over time and has clearly defined stages. The main stages are the formation of the idea of a new product, the development of a prototype of a new product and its examination in the laboratory, then the experimental production of products, and after this stage the mass production of products takes place. All stages can be divided into certain separate steps or parts of each stage.

Innovations are characterized by both dynamic and static aspects. In the latter case, innovation is considered as the final result of the research and production cycle (R&C), these results have an independent range of issues. The terms "innovation" and "innovation process" are not unambiguous, although they are close. The innovation process is related to the creation, development and dissemination of innovations.

Innovation should be considered taking into account the innovation process. For innovation, three basic properties are equally important: scientific and technical novelty, production suitability, commercial feasibility. The absence of any of them negatively affects the innovation process.

The commercial aspect defines innovation as an economic necessity realized through the needs of the market. It is worth paying attention to two points: the "materialization" of innovation, inventions and developments into new technically produced types of industrial products, tools and objects of work, technologies and production organizations, and "commercialization", which turns them into a



source of profit. Therefore, scientific and technical innovations must: a) be new; b) satisfy market demand and bring profit to the producer. The spread of innovative innovations, as well as their creation, is an integral part of the innovation process [4].

There are three logical forms of the innovation process: simple intra-organizational (natural), simple inter-organizational (commodity) and extended. A simple innovation process presupposes the creation and use of an innovation within the same enterprise, the innovative innovation in this case does not directly take a commercial form. In a simple inter-organizational innovation process, the innovation acts as a subject of purchase and sale. This form of the innovation process means separating the function of the creator and producer of the innovation from the function of its consumer. Finally, the extended innovation process manifests itself in the creation of more and more innovative manufacturers, the violation of the monopoly of the pioneer manufacturer, which through mutual competition contributes to the improvement of the consumer properties of the product released to the market. That is, in the conditions of the product innovation process, there are at least two economic entities: the producer (creator) and the consumer (user) of the innovation. If the innovation is a technological process, its producer and consumer can be connected in one economic entity.

As the innovation process transforms into a commercial one, two of its organic phases are distinguished: a) creation and distribution; b) innovation diffusion. The first, mainly, includes successive stages of scientific research, research and development works, organization of experimental production and sales, organization of commercial production. In the first phase, the beneficial effect of the innovation has not yet been realized, but the

prerequisites for such implementation are being created. In the second phase, the socially useful effect is redistributed between producers of the innovation, as well as between producers and consumers.

As a result of diffusion, the number and quality characteristics of both producers and consumers are changing. Continuity of innovative processes has a decisive influence on the speed and breadth of diffusion of innovative innovations in the market economy [6]. On the diffusion of innovations, interfirm cooperation ties are formed for the exchange of innovations between Ukrainian enterprises, which is shown in Figure 1.

Diffusion of innovations is a process by which an innovation is transmitted through inter-firm communication channels between members of the socio-economic system over time. Innovative innovations can be ideas, objects, technologies, processes that are new for the relevant business entity. In other words, diffusion is the spread of an already mastered, tested and previously used innovation in new conditions or places of application, for example, by other business entities.

The spread of innovation is an information process, the form and speed of which depends on the power of communication channels, the peculiarities of the perception of information by business entities, their ability to make practical use of this information, etc. This is due to the fact that business entities operating in the real economic environment have different attitudes towards the search for innovations and different capacities for their assimilation [6].

One of the important factors in the spread of any innovation is its interaction with the corresponding socio-economic environment, an essential element of which is competing technologies.

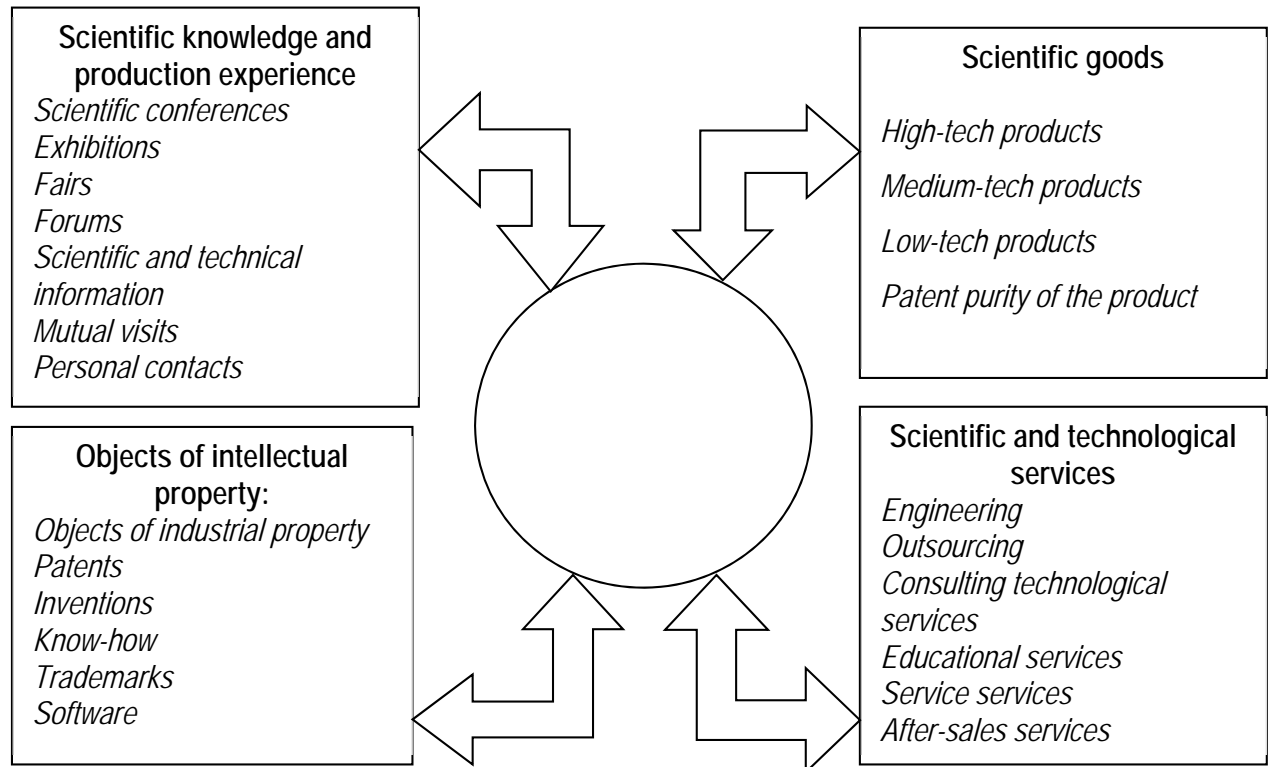


Figure 1 – The structure of inter-firm cooperative relations for the exchange of innovations by Ukrainian enterprises

Source: Constructed and developed authors.

According to the theory of long waves of economic development, which is caused by innovative innovations, of the Austrian scientist Schumpeter J., the diffusion of inter-firm cooperative relations is a process of

cumulative increase in the number of imitators who introduce innovations following the innovator in anticipation of higher profits [1].

Table 1 – Number of industrial enterprises that introduced innovation (innovation and/or technological processes)

Indicators of innovative activity	2019		2020	
	billion hryvnias	as a % of the total number of enterprises	billion hryvnias	as a % of the total number of enterprises
That's all	739	15,6	687	13,8
Including New ones were introduced technological processes	461	9,5	478	9,6
Of them new or significantly improved low- waste and resource-saving ones	224	4,7	174	3,5
Introduced types of innovative products (goods, services)	637	13,5	336	6,8
Of them New machines, equipment, devices, devices	171	3,6	137	6,8

Source: Developed on the basis of the statistical yearbook of Ukraine for 2020. State Statistics Service of Ukraine [12].

The introduction of the latest technological processes has recently decreased from UAH 739 billion. to 687 billion hryvnias, although such a decrease is not significant, but such a trend is unacceptable. The indicators of growth in the purchase of new machines, equipment, devices and devices are more positive, and such growth almost doubled indicates that Ukrainian enterprises prefer the purchase of new equipment. This trend characterizes the greater material component of the innovation process for Ukrainian enterprises.

Analyzing the sectoral structure of interfirm cooperative agreements and joint ventures, Ukrainian researchers note its difference from that in the first post-war decades, when joint agreements were mainly in extractive industries and the raw material processing industry. Now the main areas of interfirm cooperative cooperation are R&D, as well as those industries where foreign direct investment has become predominant in expanding ties with foreign companies, for

example, commercial aircraft construction, metallurgy, automobile and such "young" industries as chemical industry, biotechnology, technologies aimed at environmental protection. Interfirm cooperative cooperation involving foreign capital is now usually accompanied by the transfer of innovative technologies; in a large number of cases, this is the export of technology from the USA, North Korea, and China, but in the metallurgy, chemical, and automotive industries, joint production implies a significant American and European import of technologies [8].

The structure of total innovation costs of enterprises by main types of economic activity is presented in Figure 2. In 2020, the costs of innovation in Ukraine by industrial enterprises reached UAH 14,220.9 million, the number of industrial enterprises implementing innovations in the production process was 782 enterprises.

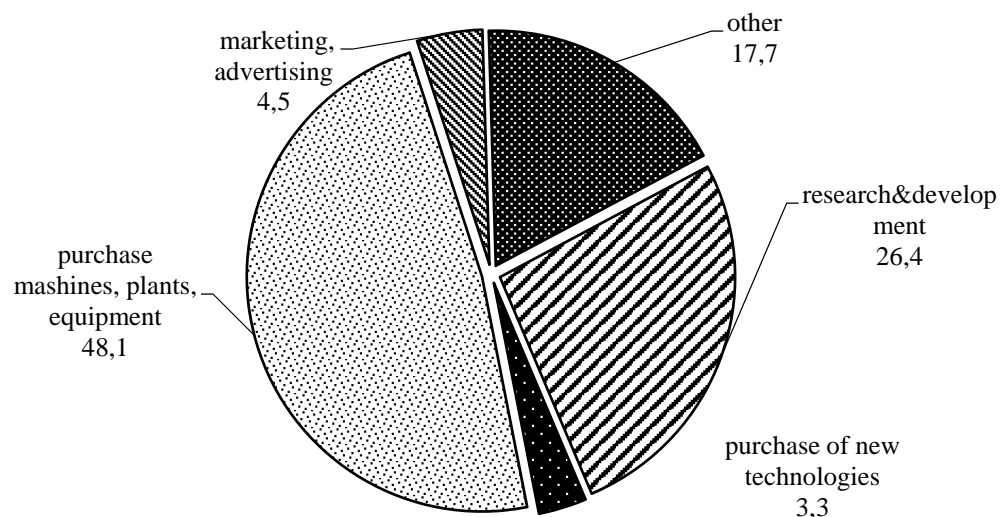


Figure 2 –The structure of innovation costs in industry in 2020 (to the total volume, as a percentage)

Source: Developed on the basis of the statistical yearbook of Ukraine for 2020. State Statistics Service of Ukraine [12].

A significant number of industrial enterprises are not engaged in the implementation of innovations at all, and

such an internal reserve is not yet realized and indicates significant prospects for improving the innovation process.

American economists note that 87% of all interfirm cooperation agreements on the exchange of innovations account for five large industrial sectors (automotive, aerospace, telecommunications, electrical engineering, computer manufacturing) and this concentration is not accidental. These industries are characterized by high barriers to market access, globalization of production, significant economies of scale, rapidly changing technology, and high operating costs, i.e., features that are most easily overcome through cooperative agreements. Examples of expensive and risky projects, in particular, due to technological obsolescence soon after the end of their development, are such as the development of a "new world car", a transcontinental airliner or a complex telecommunications system [9].

As for the specific goals of cooperation, the largest number of interfirm innovation agreements are aimed at joint R&D (38%) and production of a new product (23.3%), that is, they are at the early, competitive stages of the production process. The purpose of cooperation also varies by region of Ukraine. The main and predominant purpose of interfirm cooperative agreements of the EEC and the USA is product development, while Japanese firms are most active in concluding agreements in the field of production.

The modern international exchange of innovative technologies is characterized by the following new trends:

1. The exchange of technologies is increasingly considered as an equal part of the business strategy of enterprises, coordinated with other key areas of business activity (export, joint ventures, cooperation, etc.). So, for example, the sale of licenses promotes trade in goods due to the supply of components and raw materials. It is often practically the only means of entering the market of a number of countries.

2. Corporations increasingly strive to limit the access of "foreign" firms to their innovative technologies and increase the volume of their sales to subsidiaries. Therefore, the share of technology sales to its

branches in countries such as the USA is 75-80%. For example, the American company IVM sells licenses to independent firms only for individual computer nodes, and mostly those whose production has been discontinued by the company itself, and sells licenses for the manufacture of computers only to its subsidiaries.

3. Most often, agreements on the transfer of technologies include complex provision of services, including the performance of works such as engineering, the transfer of patent rights, know-how, design and technological documentation, the supply of special equipment that completes products and materials, the provision of technical assistance in installation, commissioning and adjustment of equipment, training of specialists, etc.

4. The growth rate of trade in innovative technologies is ahead of the growth rate of trade in other goods. Currently, the total volume of trade in innovative technologies in the world is estimated at more than 500 billion US dollars. The reason for such rapid development of the market of innovative goods and technologies lies in the exceptionally high profitability of trading in innovative goods.

5. Most often, on the basis of license agreements, cooperative relations between enterprises that are part of joint financial and industrial groups or joint-stock companies with a wide range of goods are created and developed.

6. The growth of competition in the market of innovative technologies leads to the improvement of marketing activities of firms operating in this market. At the same time, special attention is paid to such indicators as the assessment of the license "portfolio" of enterprises, the preparation of the licensed object for sale, or the patenting and strengthening of patent protection of the licensed objects, as well as the negotiations and drawing up of license agreements and the speed of execution of license agreements.

7. In recent years, the practice of economic cooperation is increasingly carried

out according to the formulas: "technology – services – equipment", while earlier Ukrainian enterprises carried out mutual exchange as follows: "equipment - services - technology". Thus, equipment and materials become goods that accompany the supply of knowledge and services that are of primary and most important importance for manufacturing enterprises.

8. Orientation of the scientific and technical policy of enterprises not only on the development of new technologies, but also on their quick and timely application, which makes the purchase of innovative technologies a more profitable operation than their own development and long-term scientific research.

Indeed, with all the benefits of technology trade for the licensor, usually a large part of the profit (up to 3/4) remains with the licensee, and the licensor gets a smaller (about 1/4) part. Usually (in 80-90% of cases) the licensee pays for the license after producing and selling the products. Therefore, the licensee does not need significant funds to purchase licenses [12]. The advantages of a strategy focused on the purchase of licenses include:

- shortening the terms of mastering the latest technology and obtaining a significant economic effect due to the earlier introduction of new equipment into industrial operation;
- the ability to meet the need for new equipment and technology in a short period of time;
- the emergence of the ability to actively oppose competitors, ensuring a high level

and quality of development and production products;

- saving funds and time for conducting own research and development (R&D) work;
- the possibility of reducing production costs by organizing technological cooperation with licensors and other firms that are leaders in the production of science-intensive goods;
- the possibility of reducing currency costs due to the production of licensed products instead of their import and gaining experience in conducting research and development works.

**Conclusions.** Thus, the wide and comprehensive exchange of innovative technologies based on the establishment of inter-company cooperative agreements leads to significant economic growth, which can be estimated not only by the amount of profit received, but it also has large social and economic consequences that lead to the spread of the product sales market.

The current period of development of the Ukrainian economy is characterized by an active search for measures to increase and restore the industrial potential of enterprises. However, the lack of comprehensiveness in the implementation of economic policy does not allow to ensure the accelerated growth of domestic enterprises and increase the efficiency of their activities. Restructuring of enterprises with effective formation and use of innovative production renewal mechanisms should contribute to increasing the competitiveness of domestic production and carrying out structural transformations in Ukrainian industry at a new level.

## References

1. Lapko O. (1999). Innovative activity in the system of state regulation. Kyiv. IEP NASU, 54 p. (in Ukr.).
2. Cockrum Jim. Internet marketing: the best free tools. Retrieved from: <https://www.motocms.com/blog/wp-content/uploads/2018/02/kokrum.pdf> (in Gr. Br.).
3. Voronyuk A., Polishchuk A. (2018). Actual internet marketing. Kyiv: «IPIO Agency», 160 p. (in Ukr.).

4. Androschuk G., Krainev P., Kavass I. (2000). The right of intellectual property: commercial aspects. Kyiv. In Yure Publishing House, 200 p. (in Ukr.).
5. Ansoff I. (1989). Strategic management: Trans. with English. Ed. L.I. Evenko M.: Ekonomika, 518 p. (in Gr. Br.).
6. Bazhal Yu.M. (2003). Knowledge economy: theory and public policy. Economics and forecasting, 3, 77-84. (in Ukr.).
7. Barnes V., Ledebur L. (2003). New regional economies. Trans. from English A. Pehnyk. Lviv: Litopys, 196p. (in Ukr.).
8. Volkov O.I., Denysenko M.P. (2004). Economics and organization of innovative activity: a textbook. Kyiv: VD «Professional», 357p. (in Ukr.).
9. Volynskiy H. (2006). About competitive advantages in the conditions of globalization. Ukraine economy. 12(541), 68-73. (in Ukr.).
10. Galchynskiy A.S., Geets V.M., Kinakh A.K., Seminozhenko V.P. (2002). Innovative strategy of Ukrainian reforms. Kyiv. Knowledge of Ukraine, 326p. (in Ukr.).
11. Geets V.M. (2004). The nature of transitional processes to the knowledge economy. Ukraine economy. 4-5(559), 4-12. (in Ukr.).
12. Hutsaliuk O.M. (2017). An innovative component in managing the effectiveness of integration transformations of corporate enterprises. Bulletin of Odessa National University. Series: Economy. 22, 10 (63), 102-108. (in Ukr.).
13. Hutsaliuk O.M., Bondar Iu.A., Lozova T.P. (2022). Digital mechanisms of formation of cooperative logistics chains of commodity markets of Ukraine in the conditions of international trade cooperation. Commercialization of innovations: protection of intellectual capital, marketing and communications: monograph. Sumy: Sumy State University, 283-295. (in Ukr.).
14. State Statistics Service of Ukraine (17.11.2022). Retrieved from: <http://www.ukrstat.gov.ua>. (in Ukr.).
15. Bondar Iu.A., Lehinkova N.I. (2018). Basic aspects of corporate management of the enterprise. Scientific magazine «Intellect XXI». 4, 40-44. (in Ukr.).
16. Bondar Iu.A., Leginkova N.I. (2021). Formation of the mechanism of innovative development of the economy of Ukraine: monograph. «Innovative Approaches to Ensuring the Quality of Education, Scientific Research and Technological Processes». Publishing House of University of Technology, Katowice, Poland, 164-172 (in Pol.).
17. Salyga K.S., Hutsaliuk O.M., Nebaba N.O. (2018). Formation of investment attractiveness and ensuring the economic efficiency of the corporate integration association. Efficient economy, 4. Retrieved from: <http://www.economy.nayka.com.ua/?op=1&z=7217> (in Ukr.).