

**INNOVATION POLICY AT INDUSTRIAL ENTERPRISES OF ZAPORIZHZHIA REGION****Cherep O. H., \*Nurlikhina G. B., Tkachuk O. O.***Zaporizhzhia National University**Ukraine, 69600, Zaporizhzhia, Zhukovsky str., 66**\*Almaty University**Republic of Kazakhstan, 050031, Almaty, 36 Aksay-3 micro region*

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**Key words:**innovation policy, innovation process,  
innovation activity, innovation potential.

It is determined that innovation is a one-of-a-kind process that integrates science, economics, business and management. The essence of the concept of "innovation" is defined by the author, which is proposed to be considered as a process that, through complex changes in technology and management, leads to an improvement in the quality of products and a decrease in their cost. The principles of innovation policy have been improved, which have been expanded to take into account the existing theoretical framework and the advantages of strategic parameters based on purposefulness, comprehensiveness, systematic nature and taking into account the market environment. It is determined that the competent implementation of innovative policy by the enterprise provides a stable increase in labor productivity and allows to halve the cost of production produced by a certain enterprise, so it is impossible not to pay special attention to the innovation policy of industrial enterprises of Zaporizhzhia region, in particular the metallurgical plant of PJSC "Zaporizhstal". The issues of the essence of innovation activity in general are discussed and the classification of innovation processes is given. The results of activity of industrial enterprises of Zaporizhzhia region from 2011 to 2017 are analyzed. The innovative activity of industrial enterprises of Zaporizhzhia region on the example of PJSC "Zaporizhstal" is substantiated and the author's suggestions on forming of effective innovative policy of the enterprise are presented. The factors of positive and negative influence on development and course of innovative activity of industrial enterprise on the example of PJSC "Zaporizhstal" are determined. The study found that the catalyst for the development of innovative activity of an industrial enterprise may be cooperation with similar enterprises to transfer skills, knowledge, technologies, production methods, production patterns, which will ensure the development of scientific and technological progress by creating new products, processes, materials and services.

**ІННОВАЦІЙНА ПОЛІТИКА НА ПРОМИСЛОВИХ ПІДПРИЄМСТВАХ ЗАПОРІЗЬКОЇ ОБЛАСТІ****Череп О. Г., \*Нурліхіна Г. Б., Ткачук О. О.***Запорізький національний університет,**Україна, 69600, м. Запоріжжя, вул. Жуковського, 66**\*Університет «Алмати»**Республіка Казахстан, 050031, м. Алмати, 36 Аксай-3***Ключові слова:**інноваційна політика, інноваційний  
процес, інноваційна діяльність,  
інноваційний потенціал.

Встановлено, що інновація – це своєрідний процес, що об'єднує науку, економіку, підприємницьку діяльність і менеджмент. Надано авторське визначення сутності поняття «інновація», яке запропоновано розглядати як процес, що через комплексні зміни технології та управління призводить до покращення якості виробів і зменшення їхньої собівартості. Удосконалено принципи інноваційної політики, які розширено з урахуванням наявної теоретичної бази та переваг стратегічних параметрів на основі цілеспрямованості, комплексності, планомірності та врахування ринкового середовища. Визначено, що грамотна реалізація підприємством інноваційної політики забезпечує стабільний приріст продуктивності праці й дозволяє майже вдвічі зменшити собівартість продукції, яку виробляє певне підприємство, тому неможливо не приділити особливої уваги інноваційній політиці промислових підприємств Запорізької області, зокрема металургійному комбінату ПАТ «Запоріжсталь». Висвітлено питання сутності інноваційної діяльності загалом та наведено класифікацію інноваційних процесів. Проаналізовано результати діяльності промислових підприємств Запорізької області з 2011 по 2017 рр. Обґрунтовано інноваційну діяльність промислових підприємств Запорізької області на прикладі ПАТ «Запоріжсталь» й наведено авторські пропозиції щодо формування ефективної інноваційної політики підприємства. Визначено фактори позитивного й негативного впливу на розвиток і перебіг інноваційної діяльності промислового підприємства на прикладі ПАТ «Запоріжсталь». Під час дослідження встановлено, що каталізатором розвитку інноваційної діяльності промислового підприємства може стати співпраця з аналогічними підприємствами для передачі навичок, знань, технологій, методів виробництва, зразків виробництва. Це забезпечить розвиток науково-технічного прогресу шляхом створення нових продуктів, процесів, матеріалів та послуг.

### Statement of the problem

The innovative activity of an enterprise is subordinate to a certain innovation policy that is developed by an enterprise in the context of its strategy. Effective innovation policy not only enhances the competitive edge of an enterprise but also helps to solve a great number of economic and social problems. In view of the aforementioned, a need arises in a thorough theoretical analysis of the innovation policies of enterprises and presenting our own proposals concerning intensification of the innovative activity of industrial enterprises.

### Analysis of recent studies and publications

Theoretical and practical aspects of the innovation policy have been reflected in the works of such researches as: Bliznyuk T. P. [1], Verba V. A. [2], Denisenko M. P. [3], Evseichev A.I. [4], Zharikov V.V. [4], Zharikov I.A. [4], Kokurin D.I. [5], Kolisnichenko V.F. [6], Koyuda O.P. [6], Kraus N.M. [7], Lelyuk O.G. [8], Novikova I. V. [2], Odnolko V.G. [4], Pokropivny S.F. [9], Ratushnyak O.G. [8], Ryzhenko Y. V. [3], Tarasova O. V. [10] etc. These scientists have studied the essence of innovative activity of industrial enterprises and the classification of innovation processes. However, it should be indicated that due to the different approaches to the interpretation of the aforementioned concepts, there is currently no clear definition of the concept of "innovation". Thus, a need arises in further research on the issues related to innovation policy of industrial enterprises.

### Objectives of the article

The objective of the article is to study the concept of innovation processes as well as to generalize their classification, to define the essence and structure of innovation policy and innovative activity in general, to assess the innovative activity of industrial enterprises in a region of Zaporizhzhya and to make our own proposals concerning intensification of the innovative activity of industrial enterprises based on the results of evaluation of innovative activity of one of the most powerful European metallurgical plants, PJSC "Zaporizhstal".

### The main material of the research

Having studied the scientific achievements of domestic and foreign economists, we propose to consider innovation as a process that, through complex changes in technology and management, leads to an improvement in the quality of products and a decrease in their cost. At the present stage of economic development of Ukraine, the problem of innovation policy of industrial enterprises is of particular relevance. At present, the diffusion of technologies is a basic condition for the formation of a competitive strategic perspective of an industrial

enterprise. The sooner management begins to take the appropriate steps to create favorable conditions for innovation, the sooner and less costly an enterprise will be able to catch up with a leader or hold a leading position. A competent enterprise innovation policy is the key to its successful activity.

In the world economic literature there is no clear definition of the term "innovation", but a number of scientists define innovation as "activity aimed at using and commercializing the results of research and development to expand and update the nomenclature and improve the quality of products (goods, services), to improve the production technology with subsequent introduction and effective realization in the domestic and foreign markets" [11].

As we know, almost all spheres of activity of the enterprise are covered by innovative activity, including innovative processes occurring in the production sphere. Enterprises independently formulate their own innovation policy and determine ways of its effective implementation. The problems of choosing an innovation policy strategy are multifaceted and complex. This is evidenced by the work of domestic scientists [12, 13].

Formation of EIP (enterprise innovation policy) is determined by the following factors:

- The strategic nature of the EIP;
- systematic approach to the formation of innovation policy;
- continuity of innovative activity of the enterprise;
- an inseparable link between innovation policy and the market situation;
- completeness of coverage of all internal elements of business with innovative activity;
- dependence of the innovation policy on the enterprise resource potential;
- continuity of innovation policy with scientific and technological progress.

Requirements based on certain principles are provided for the development of enterprise innovation policy [13].

Figure 1 shows the basic principles of innovation policy.

For a better idea of innovation, let us consider in more detail the content of the economic category "innovation process". The innovation process is a set of actions necessary for the preparation and practical use of new technical, organizational, economic, social and other solutions.

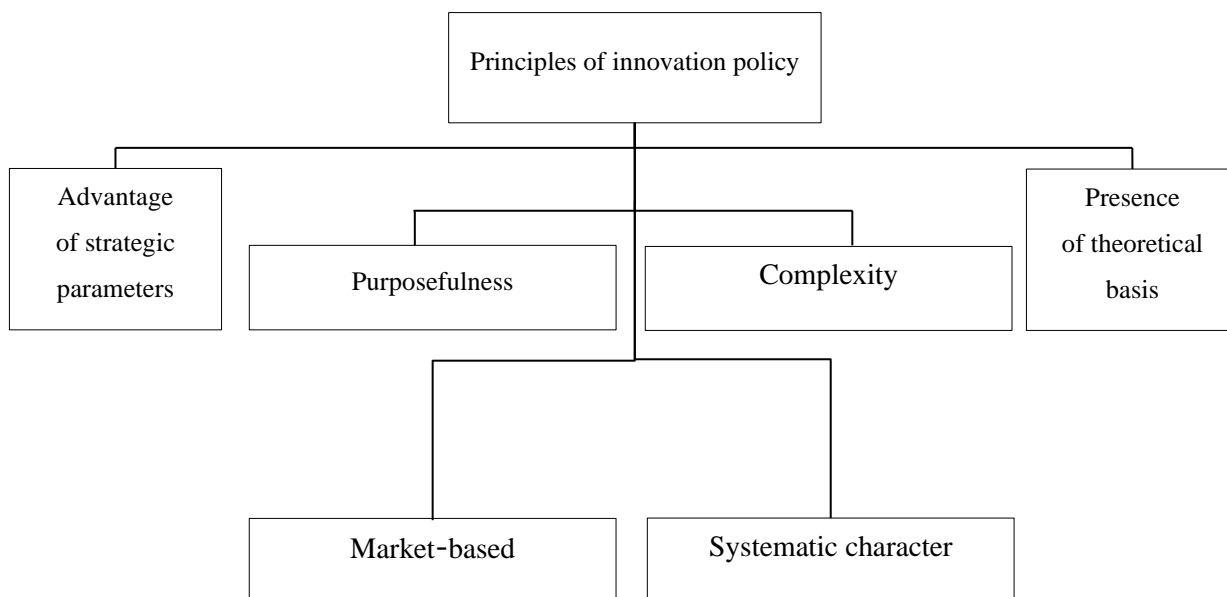


Fig. 1. Principles of innovation policy of an enterprise (built according to [13])

In this case, it is a process of sequential transformation of an idea into an innovation [7].

Innovative processes include:

- a) a systematic approach to solving a specific problem of innovation;
- b) continuous (through) management of processes of creation, development of production and consumption of innovations;

c) selecting the most effective implementation of innovations [4].

There are many variants of classification of innovative processes developed by domestic and foreign authors. In this case, the most important features are the degree of novelty, scope, nature of use, purpose, etc.

In order to analyze the formation of innovation policy by industrial enterprises of Zaporizhzhia region, the analysis of activity of industrial enterprises of Zaporizhzhia region for 2011-2017 was performed.

Table 1 – The main indicators of industrial development of the Zaporizhzhya region in 2011-2017

	2011	2012	2013	2014	2015	2016	2017
Total volume of industrial products sold, bln. грн.	70,60	71,00	75,84	84,30	130,80	143,20	187,80
Share in the total all - Ukrainian volume of sales of industrial products, %	7,00	7,00	6,80	7,90	8,70	8,10	8,70
Rating among the regions of Ukraine by volume of sales	4	4	3	3	3	4	3

Table 1 shows that in 2017, industrial enterprises of Zaporizhzhia region produced products worth UAH 44.6 billion more than in 2016. The share of sold products by industrial enterprises of Zaporizhzhia region in the national volume also increased to 8.7% compared to 8.1% in 2017.

In order to better understand the innovation processes and analyze their impact on the country's economy, in 2006, a European system for monitoring innovation activities of CIS was introduced.

Currently, we are able to analyze statistical data on spending on research in the Zaporizhzhya region in 2017.

Expenditure rates are shown in Table 2.

Table 2 – Expenditure on research and development by type of work and sources of funding for 2017 (Thou. hrn.)

	Internal costs of research and development	Including to do		
		Fundamental research	Applied research	Scientific and technical (experimental) developments
Total	914062,4	16131,5	265657,3	632273,6
At the expense of the budgetary funds	24694,6	13784,9	9267,8	1641,9
At the expense of the State budget	24586,6	13784,9	9267,8	1533,9
Own funds	63995,9	2346,6	4377,9	57271,4
Funds of domestic customers	528445,2	–	163898,3	364546,9
Funds of foreign customers	296626,1	–	88113,3	208512,8

According to the table, we can conclude that public funding is at a very low level (approximately 2.7% of the total). A situation where the amount of foreign investment exceeds the amount of public investment is not acceptable. The sphere of innovation requires independent state support.

According to the State Statistics Committee, in 2016, 834 enterprises, or 18.9% of surveyed industrial enterprises, were engaged in innovative activity in industry. In 2016, 88.1% of innovative industrial enterprises implemented innovations (or 16.6% of industrial enterprises surveyed). They introduced 4,139 innovative products, of which 978 were new exclusively for the market, 3161 were new only for the enterprise. Of the total 1305 products implemented, there are new types of machines, equipment, appliances, appliances, etc., of which 22.3% are new to the market. Zaporizhzhia region is the leader in the number of innovative products implemented at enterprises; by types of economic activity, the largest number of innovative products was introduced at the enterprises for the production of machinery and equipment, not related to other groups, food, and metallurgical production [5].

To get a more accurate idea of innovative activity in Zaporizhzhia region, let's consider innovative activity at the enterprise of PJSC "Zaporizhstal" - for this we turn to the report for 2018. According to the company's official website, the most innovative changes were made in 2018.

The most important innovative technical "re-equipment" was the replacement of the open-hearth method of steel production with a more environmentally friendly converter. Such innovative transformations were made at the enterprise's own expense.

### Conclusions

We believe that, firstly, the Government should establish state support for Zaporizhstal PJSC and other enterprises that are actively engaged in innovation activities. An important factor that will push the enterprise management to innovate may be to provide PJSC "Zaporizhstal" preferential loans or medium-term loans with reduced credit rates, subsidies, etc., provided that the profits from the sold products will be reinvested in the development of innovative infrastructure.

Secondly, to ensure innovative development, Zaporizhstal PJSC may organize cooperation with similar enterprises, such as PJSC "Azovstal" and PJSC "Dnipropetsstal". Cooperation involves the transfer of skills, knowledge, technologies, production methods, production patterns, which will ensure the development of scientific and technological progress by creating new products, processes, materials and services. At the enterprise, the qualification of the personnel engaged in innovative activity should be improved. These can be retraining, trainings, seminars for employees of the enterprise. A perfect system of innovation and information support should be created by bringing together experts from different departments engaged in research development, design and development work, marketing research, industrial implementation of innovations, financial management and other activities related to the implementation of innovative projects.

Therefore, the introduction of innovation is the key to the success of any enterprise, because it is innovation that allows enterprises to remain competitive. State support for industrial enterprises and their cooperation can serve as catalysts for innovative transformations.

### References

1. Blyznyuk, T.P. (2008). Vplyv tsyklichnosti rozvytku ekonomiky na innovatsiinu diyalnist pidpriemstva [Influence of cyclical development of economy on innovative activity of enterprise]. Kharkiv: FOP Aleksandrova K.M. [in Ukrainian].

2. Verba, V.A. & Novikova, I.V. (2003). Metodichni rekomendatsii z otsinky innovatsiinoho potentsialu pidpriemstva [Methodical recommendations for evaluation of innovative potential of the enterprise]. (№3) Problemy nauky [in Ukrainian].
3. Denysenko, M.P. & Ryzhenko, Ya.V. (2007). Stratehichna misiia innovatsiinoi diialnosti ta shliakhy ii aktyvizatsii v Ukraini [Strategic mission of innovation activity and ways of its activation in Ukraine]. (№6) Problemy nauky [in Ukrainian].
4. Zharikov, I. A., Zharikov, V. V., Odnolko, V. H. & Yevseichev, A. I. (2009). Upravleniie innovatsionnymi protsessami [Management of innovation processes]. Tambov: Izd-vo Tamb. hos. tekhn. un-ta [in Russian].
5. Kokurin, D.I. (2001). Innovatsionnaia dieiatelnost [Innovative activity]. Moscow: Ekzamen [in Russian].
6. Koiuda, O.P. & Kolisnychenko, V.F. (2009). Innovatsiina diialnist: vid otsinky pryvablyvosti do investytsiinoho zabezpechennia [Innovative activity: from appraisal of attractiveness to investment support]. Kharkiv: KHNEU [in Ukrainian].
7. Kraus, N.M. (2013). Innovatsiinyi protses yak osnova formuvannia mekhanizmu innovatsiinoi infrastruktury: instytutsionalnyi aspekt [The innovation process as a basis for the formation of the mechanism of innovation infrastructure: institutional aspect]. Poltava: Naukovyi visnyk Poltavskoho universytetu ekonomiky i torhivli [in Ukrainian].
8. Ratushniak, O.H. & Lialiuk, O.H. (2015). Analiz innovatsiinoi aktyvnosti promyslovykh pidpriemstv Ukrainy [Analysis of innovative activity of industrial enterprises of Ukraine]. Kharkiv: Visnyk KHNU [in Ukrainian].
9. Pokropyvnyi, S.F. (1999). Ekonomika pidpriemstva [Enterprise economy]. Kyiv: Vydavnytstvo KNEU [in Ukrainian].
10. Tarasova, O.V. (2012). Teoretyko-metodolohichni osnovy innovatsiinoi diialnosti pidpriemstv [Theoretical and methodological foundations of enterprise innovative activity]. Ekonomika kharchovoi promyslovosti. №1 p. 37–41.
11. Fatkhudinov, R.A. (2008). Innovatsionnyi menedzhment [Innovative management]. Saint-Petersburg: Pitier press [in Russian].
12. Fedulova, L.I. & Shovkun, I.A. (2010). Pidhody do formuvannia diievoi innovatsiinoi stratehii [Approaches to formation of effective innovative strategy of Ukraine]. Nauka ta innovatsii. № 3 p.5-15.
13. Illiashenko, S.Yu. (2008). Marketinh innovatsiiv i innovatsii v marketinhu [Marketing of innovations and innovations in marketing]. Sumy: VTD "Universytetska knyga" [in Ukrainian].