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CLUSTERIZATION OF INTERPRETATIONS OF THE CATEGORY “INNOVATION” AS A FACTOR OF ECONOMIC DEVELOPMENT

КЛАСТЕРИЗАЦІЯ ТРАКТУВАНЬ КАТЕГОРІЇ «ІННОВАЦІЯ» ЯК ЧИННИКА ЕКОНОМІЧНОГО РОЗВИТКУ

The article is devoted to the analysis and clustering the different perspectives to the interpretation of the economic category of “innovation”, which remains ambiguous and contradictory in the scientific literature and leads to various interpretations and disagreements among researchers. An improved clustering of interpretations of the category “innovation” is proposed, which contains five main approaches: innovation as an element of growth, as a commercial process, as a systematic approach, as the latest solutions, and as a creative idea. The importance of the topic stems from the necessity to clarify and systematize different approaches to the interpretation of the category “innovation”, which will allow for a clearer understanding of this economic concept and its role in the development of enterprises and society.

Key words: innovation, economic development, commercialization, creativity, competitiveness, technological progress.

Стаття присвячена всебічному аналізу та систематизації існуючих підходів до трактування економічної категорії «інновація». Підкреслена ключова роль інновацій у забезпеченні економічного розвитку, підвищенні конкурентоспроможності підприємств та загального добробуту суспільства. Незважаючи на це, сам термін «інновація» залишається багатозначним та суперечливим у науковій літературі, що призводить до різноманітних інтерпретацій та розбіжностей серед дослідників. Актуальність теми полягає у необхідності уточнення та систематизації різних підходів до трактування категорії «інновація», що дозволить забезпечити більш чітке розуміння цього економічного поняття та його ролі у розвитку підприємств і суспільства. Зазначається, що поняття "інновація" охоплює не лише введення нових продуктів або процесів, але й включає комплексні зміни в управлінні, організаційній культурі, методах маркетингу та інших аспектах діяльності підприємств. Ці зміни спрямовані на досягнення сталого розвитку та забезпечення конкурентних переваг. На противагу цьому, категорія «нововведення» розглядається як більш вузьке поняття, яке зосереджене на конкретних продуктах або процесах. Виділено два основних підходи до визначення інновацій в українській економічній літературі: статичний, який трактує інновацію як кінцевий продукт інноваційного процесу, та динамічний, що фокусується на самому процесі інновації, охоплюючи етапи від досліджень до комерціалізації та поширення нових принципів і методів. Також розглянуто чотирикомпонентну модель інновацій, що включає творчість, стратегію, впровадження та прибутковість. Запропоновано удосконалену кластеризацію трактувань категорії «інновація», що містить п'ять основних підходів: інновації як елемент зростання, як комерційний процес, як системний підхід, як новітні рішення та як креативна ідея. Продемонстровано, що інновації можуть розглядатися з різних перспектив – від конкретних технологічних рішень до системних змін в організації та економіці в цілому. Виявлено, що поділ на відповідні кластери дозволяє глибше зрозуміти комплексність інноваційного процесу та його значення для розвитку бізнесу і держави.

Ключові слова: інновація, економічний розвиток, комерціалізація, креативність, конкурентоспроможність, технологічний прогрес.

Statement of the problem. Innovation plays one of the main roles in the modern economy, ensuring the development and welfare of society and increasing the competitiveness of enterprises. Understanding innovations as an economic category requires their detailed study, since the interpretation of the concept is multifaceted and

ambiguous, and statistical indicators confirm their growth and actualization of this research direction.

Analysis of recent research and publications. In the scientific community and the economic literature around the world, there is a lack of consensus regarding a single definition of the concept of innovation. This term is

subject to various interpretations according to the views of different researchers, which often leads to discussions and interpretive disagreements. In the modern scientific discourse, the concept of "innovation" is practically universal, appearing on the pages of many research works, while each author brings a unique meaning to this term, which can vary and cause a debate about its use.

Many Ukrainian scientists, in particular V.V. Izhevsky [12], put forward the idea that the concepts of "innovation" and "novation" can be considered interchangeable, based on the fact that the English word "novation" is translated as innovation. However, our position is closer to the opinion of other researchers who claim that such an identification is not entirely correct. In their opinion, novation should be considered not as a process, but as a result of innovative activity, while the process itself is actually innovation. For example, S.O. Arefiev [1, p. 90] opposes the equality of these terms, believing that novation has a narrower meaning and acts as an object of innovation. The scientist notes that the life cycle of novation includes the stages of development, design, production and use, while innovations go through the stages of inception, diffusion and routinization. A similar opinion is held by I.A. Hnatenko [11, p. 39], who emphasizes that novation can be part of the innovation process, but not entirely. According to economists I.V. Okhrimenko, N.M. Vdovenko, E.I. Ovcharenko [18], the category "innovation", which is characteristic of the innovative economy of the new generation, covers a wider range of meanings compared to "novation", which is why their identification as synonyms is considered illegal. Brockova et al. [5] in their work emphasize that the key difference between innovation and novation is to obtain a commercial effect that benefits both the entrepreneur and the consumer, which indicates the need for further research into this issue. Based on the analyzed works, it is important to consider that the concept of the term "innovation" covers not only the introduction of new products or processes, but also includes complex changes in management, organizational culture, marketing methods and other aspects of enterprise activity aimed at achieving sustainable development and providing competitive advantage, while "novation" is more focused on specific products or processes. Therefore, while novation may be an important part of the innovation process, innovation itself goes far beyond this concept, requiring a broader understanding

and integration into the strategy of the company and the state.

Formulation of the research task. The purpose of the article is to organize the existing views on the interpretation of the category "innovation", which is aimed at providing a clearer and structured understanding of the various dimensions and interpretations of innovation used in economic discussions. To achieve this goal, a comprehensive approach was used, which includes a critical review of existing theoretical definitions, an analysis of the classification of innovations, and a synthesis of the most appropriate approaches.

Summary of the main research material. Two main approaches to defining innovations are identified in Ukrainian economic works. The first is a static approach that interprets innovation as the final product of the innovation process, including new techniques, products or technologies that have been introduced to the market. The second is a dynamic approach that focuses on the innovation process itself, covering stages from research to commercialization and dissemination of new principles and methods [19, p. 59].

However, there is another opinion that complements this thesis, which was proposed by Mykytyuk P.P., Krysko Zh.L., Ovsyanyuk-Berdadina O.F., Skochilyas S.M., where innovation includes four components within the framework of the economic system (Figure 1).

Considering the results of the theoretical study of the concepts of innovation, the essence and approaches to classification, it is advisable to organize the existing views on the interpretation of the category of innovation. These efforts are aimed at providing a clearer and more structured understanding of the various dimensions and interpretations of innovation used in economic discussions (Table 1).

As can be seen from the table, an improved vision of the clustering of the interpretation of the "innovation" category is proposed, namely: as an element of growth that focuses on innovation as a key factor in economic and social development; as a commercial process, where innovations are considered through the prism of their commercialization through the use of intellectual property objects, in particular means of individualization (trademarks, commercial names, geographical indications, etc.), and influence on business activity; as a systemic

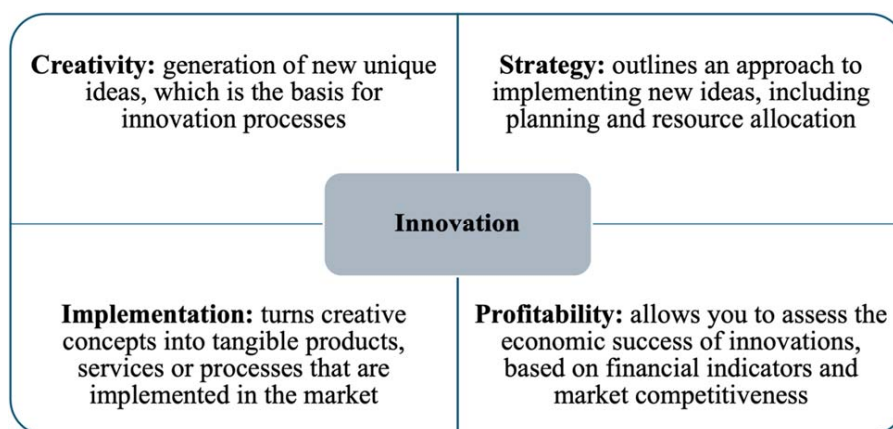


Figure 1. Four components of innovation

Source: created by the author based on [16, p. 22]

Approaches to interpreting the essence of the concept of “innovation”

Author	Definition
Innovations as a development element	
Balanchuk I.S.	“The concept of “innovation” is understood as a novelty introduced into the sustainable process of development of a certain object, which ensures the qualitative improvement of this process and obtaining better results” [2, p. 10]
Furstenthal L., Roth E.	“Definition of innovation incorporates delivering net new growth that is sustainable, repeatable, and substantial” [9]
Hidrobo-Morales J.T., Marcillo-Delgado J.C., García-Carrillo A.	“Innovation is an important factor in a country’s economic growth since it enables companies to generate new ideas, market new products or services, generate new business models, be more competitive, and internationalize” [10, p. 4]
Innovation as a commercial process	
Matsikanych I. M.	“...innovation should be considered as a complex process of creating new consumer values based on the achievements of science and technology, their introduction and use for the purpose of meeting social needs” [14, p. 1]
The Business Development Bank of Canada	“Innovation is about successfully implementing a new idea and creating value for your customers and stakeholders” [21]
Frank L., Mohamed S.	“Innovation refers to the process of introducing new ideas, products, services, or processes that bring value to an organization or society” [8]
Innovation as a systematic approach	
McKinsey & Company	“Innovation is the systematic practice of developing and marketing breakthrough products and services for adoption by customers” [15]
Marc de Jong, Marston N., Roth, E.	“...innovation is a complex, company-wide endeavor, which requires a set of crosscutting practices and processes to structure, organize, and encourage it” [6]
Okhrimenko I., Vdovenko N., Ovcharenko Y., Hnatenko I.	“Innovation in the conditions of an innovative economy is a highly intellectual mental process of the activity of an entrepreneur, state manager or other market entity, which consists of the following cycles: conception, design, strategizing, budgeting, manufacturing and commercialization” [18, p. 6]
Innovations as the newest solutions	
OECD	“An innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)” [17, p. 20]
Bazhal Y.	“...a change in production technology, which has historical significance and is a leap from the old production function to the new one” [3]
Boyles M.	“Innovation is a product, service, business model, or strategy that’s both novel and useful” [4]
Innovation as a creative idea	
Suprun A.	“Innovation is not only an innovation, it is also the ability to a new type of thinking and reinterpretation of existing stable, traditional truths” [20]
Juice Inc	“Innovation is the process of translating creative ideas into value-adding solutions that deliver tangible results, such as new products, services, or processes” [13]
Wijngaarden, Y., Bhansing, P.V., Hitters, E.	“...innovation builds on elements of individual creativity and is most notably defined as the successful implementation of creative ideas.” [22]

Source: created by the author

approach that emphasizes innovation as a systemic process that includes strategic planning, organizational change, knowledge management and innovation culture; as the latest solutions, where the category is described through the process of implementing the latest solutions – products, services, processes, which are not only new, but also have a significant positive impact on production, the market or society as a whole; as a creative idea that emphasizes the role of creativity, uniqueness and innovative thinking in solving problems and creating new value. This classification allows for a deeper understanding of the multifaceted nature of the innovation process and its significance for business and society development.

An important aspect of any innovative developments is commercialization, which affects the well-being of the state, activating economic development primarily through attracting investments and supporting innovations.

Therefore, the development of innovative activity in the world can be measured on the basis of the number of filed patent applications and issued patents, with the help of which the process of commercialization of innovations takes place.

The figure 2 shows that the number of patent applications filed increased steadily from 152 703 in 2014 to 199 275 in 2023. In particular, from 2019 to 2020, the year the Covid-19 pandemic began, the number of applications decreased by 0.61%, but already in 2021, the number of applications increased to 188 809, which is 4.65% more than in 2020. The growth continued in subsequent years, in 2023 there were 199,275 European patent applications, which is 2.91% more than in 2022.

As for the issuance of European patent grants, their number also grew from 64 708 in 2014 to a peak of 137 784 in 2019. However, during the next 3 years, the

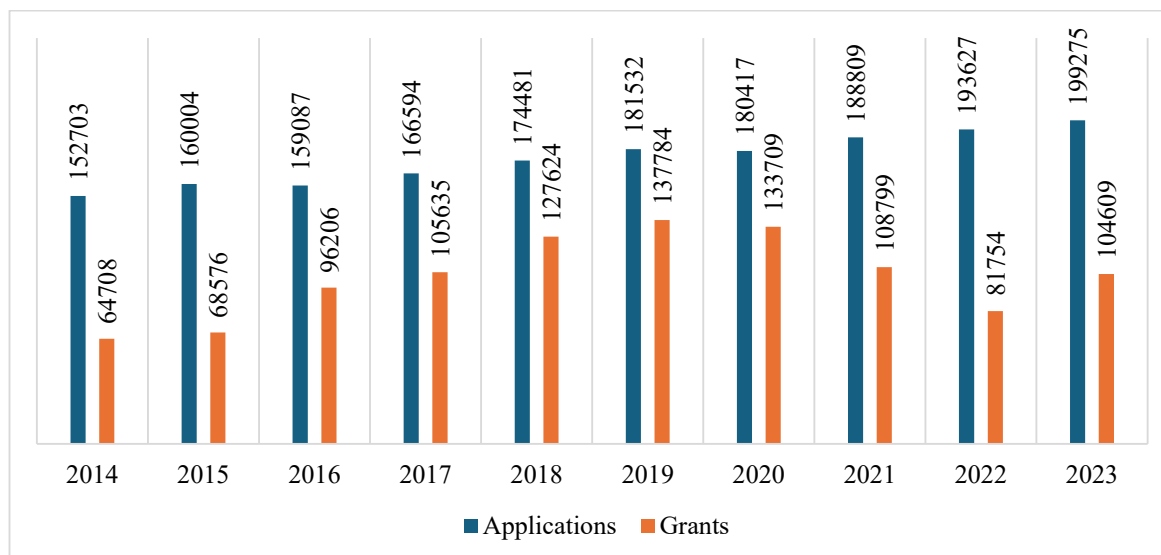


Figure 2. Total European patent applications and grants, pcs., 2014-2023

Source: compiled by the authors based on [7]

number of issued patents decreased, which reached its maximum in 2022 – by 24.85% to 81 754 units and only in 2023 there was a significant recovery in the growth of the issuance of patents to 104 609, which is 27.95% more than in the previous year.

The overall analysis shows that the COVID-19 pandemic had a minor impact on patent filings and a more significant impact on patent issuance statistics in 2020 and 2021, causing a decrease in the number of patents issued due to operational delays and economic difficulties. However, 2023 is the year that proves the renewal of innovation activity and adaptation of companies to new conditions.

Conclusions. To sum up, it can be noted that innovation is one of the key factors of economic development and increasing the competitiveness of both individual enterprises and national economies as a whole. However, despite the wide use of the term “innovation” in scientific and economic discourse, there is considerable variability in its interpretation and understanding. Innovation has a wider

range of meanings and covers not only the introduction of new products or processes, but also complex changes in management and organizational culture.

The analysis of different approaches made it possible to reveal five modern main directions of interpretation of innovation: as an element of growth, as a commercial process, as a systemic approach, as the latest solutions and as a creative idea. It is important to note that the proposed classification is not exhaustive and demonstrates that the concept of innovation cannot be reduced to one aspect but requires a comprehensive approach that considers different dimensions of their impact on economic and social processes. Thus, the conducted research not only systematizes the existing approaches to understanding innovations, but also opens up new perspectives for theoretical and applied research in the field of innovative economy, the importance of which is confirmed by the increase in patent activity in the process of commercialization of innovations in the world.

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