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THEORETICAL FRAMEWORK OF INTERRELATIONSHIP'S INNOVATIONS, BRANDS OF COMPANIES AND TERRITORIAL DEVELOPMENT

The territorial development is connected with innovative activities of companies. The intangible assets, in particular, brands of companies, form an additional factor in strengthening the impact of innovation on the territorial development, and thus increases the efficiency of the latter. The aim of research is to develop the theoretical framework of interrelationship's innovations, brands of companies and territorial development. It was used methods of analysis, synthesis and system approach. It was found, that the main indicators of the interrelationship's framework "innovations-brands of companies-territorial development" are: 1) innovative indicators of companies: the number of innovations, the number of implemented innovations, the number of patents; 2) financial and economic indicators of the company: expenses for the promotion of the company, brand value, revenue, taxes; 3) indicators of the territorial development: the budget of the territory, the GDP of the territory, the number of business entities located in the territory; the number of business entities registered in the territory. More innovative companies have a higher brand value, realized in higher demand for products, increased revenue, and, therefore, the amount of taxes that come to the territory's budgets. A larger territory budget determines the regional economic capacity, expanding opportunities and directions of development.

Keywords: brand, development, industry policy, indicator, patent.

JEL Classification: 010, 030, R11

ТЕОРЕТИЧНІ ОСНОВИ ВЗАЄМОЗВ'ЯЗКУ ІННОВАЦІЙ, БРЕНДІВ КОМПАНІЙ ТА ТЕРИТОРІАЛЬНОГО РОЗВИТКУ

Розвиток територій пов'язаний з інноваційною діяльністю компаній. Нові стратегії, технології та ідеї мають вирішальне значення для успіху на ринку. Відповідно, інновації стають частиною нематеріальних активів (патентів, ноу-хау) і тією чи іншою мірою формують бренди компаній. Наявність нематеріальних активів, зокрема брендів компаній, виступає додатковим фактором посилення впливу інновацій на територіальний розвиток, а отже, підвищення ефективності останнього. Метою дослідження є розроблення теоретичних основ взаємозв'язку інновацій, брендів компаній та територіального розвитку. У процесі дослідження були використані методи аналізу, синтезу та системний підхід. Обґрунтовано, що: 1) у довгостроковій перспективі технологічні зміни визначають економічний розвиток країни/території; 2) промислове виробництво залишається найважливішим фактором змін, оскільки цей сектор є основним джерелом працевлаштування, інновацій та підвищення продуктивності праці; 3) розвиненіша економіка території продукує більше інновацій, і навпаки; 4) приватні компанії є найбільшими виробниками інновацій у світі; 5) існує залежність між рівнем розвитку території та кількістю зареєстрованих на ній брендів (вищий рівень розвитку означає більшу кількість брендів). Досліджено, що основними показниками взаємозв'язку «інновації-бренди компаній-розвиток території» є: 1) інноваційні показники компанії: кількість інновацій, кількість впроваджених інновацій, кількість патентів; 2) фінансово-економічні показники компанії: витрати на просування компанії, вартість бренду, виручка, податки; 3) показники розвитку території: бюджет території, ВВП території, кількість суб'єктів господарювання, розташованих на території; кількість зареєстрованих на території суб'єктів господарювання. Таким чином, більш інноваційні компанії мають вищу вартість бренду, що реалізується у більш високому попиту на продукцію, збільшенні доходів, а отже, і суми податків, які надходять до бюджетів території. Збільшення бюджету території визначає економічну спроможність регіону, розширення його можливостей економічного та соціального розвитку.

Ключові слова: бренд, розвиток, промислова політика, показник, патент.

Statement of the problem. According to the research of R.E. Lucas, models of sustainable growth of per capita income can be based on exogenous improvements in technology, knowledge, in human capital (innovation)

or can be built on economic decisions about investments in activities that initiate similar improvements in the environment [25]. In turn, innovations are elements of the territory's development. Sustainable Development Goal

Nine defines investment in infrastructure and innovation as the main economic growth and development factors. According to the rating of the consulting company "Boston Consulting Group" (BCG), the most innovative enterprises of 2021 include the companies "Apple", "Alphabet", "Amazon", "Microsoft", "Tesla", "Samsung", "IBM", "Huawei".

The largest innovative companies include such well-known brands as "Facebook" (13th place), "Cisco" (17th place), "Bosch" (30th place), as well as "Toyota", "Nike", "Xiaomi", "SAP" [20].

It means that the business develops and implements innovations to survive on the market and scale. Accordingly, innovations become part of intangible assets (patents, know-how) and form companies' brands to one degree or another. Patenting is an important element of innovative activity. Patents generate additional cash flows of the business entity and the GDP of the country in which these patents are registered.

Thus, innovations can shape the brands of companies and territories. In the absence of innovative priority in state policy, innovations cannot contribute to the territorial development. Accordingly, the development of theoretical framework of "innovations, brands of companies and territorial development" is relevant in terms of increasing the efficiency of innovations for companies, forming opportunities for the development of territories.

Analysis of recent research and publications. J. Schumpeter determined "innovation" as "new combinations" of new or existing knowledge, resources, equipment, and other factors [40].

Understanding the mechanisms of territorial development and the factors that ensure it gives an opportunity to form appropriate policies. Innovation is the driver of territorial development. At the same time, the influence of innovation on development differs across territories.

The existing production potential forms the future territorial production capacity. Commodity space maps show that some commodities are better connected than others. Accordingly, innovations and technologies used at the level of these goods can contribute to future innovations and diversification, structural transformation of the economy [43]. High-value-added economic activities tend to be geographically concentrated in clusters (e.g., Portland, USA, semiconductor manufacturing; Seattle, biomedical development) [30]. Venture financing of innovations and startups is also highly concentrated, ten major cities annually attract 60% of global venture investments, i.e. geographical location is a factor affecting the technological investments [13].

UNIDO's medium term strategy in 2022–2025 prioritizes features of innovation pathway: multilevel approach, using integration solutions, achieving scaling results through replications [28].

Within the framework of the Eurostat Oslo Manual, two main types of innovations are distinguished [32]:

1. A product innovation is a new or improved product/service introduced to the market that is significantly different from the company's previous products/services.

2. Business process innovation is a new or refined business process functions applied by an enterprise that is significantly different from current company's activity.

According to the research of Olvinska et al., there is no clear trend in the development of innovative activity

in Ukraine; a sharp drop in innovative activity replaces positive changes in the dynamics. Many reasons explain such fluctuations in innovation processes: a reduction in financing as a percentage of GDP, a decrease in investments, a reduction in the number of industrial enterprises, etc. [33].

Zaitseva L.O. determines that the innovative activity of domestic enterprises is inherent only to those enterprises that try to compete with foreign manufacturers, and the low innovative activity of industrial entities is due to the low pace of economic development [49].

Tomakh V., Veretennikova G. distinguished the most important factors affecting GDP per capita and formed a regression equation. For Ukraine, such factors are "the innovativeness of enterprises", which takes 34.19% of the total variance, "innovation inputs" – 17.11% of the variance and the "financing and implementation of innovations" factor – 27.8% of the total variance [45].

The GDP growth by 70-80% depends on scientific and technical factors. If science intensity in the country's GDP is less than 0.4%, science can perform an exclusively socio-cultural function. With an increase in the science intensity of GDP to 0.9% and above, science begins to influence the economy and fulfill its economic function [8].

What connections between innovations and the territorial development do scientists investigate?

The article of Lomachynska I. and Ajaj L. argues the connection between investments in research and development of transnational companies and the gross world product growth [24].

Stegney M. systematizes and singles out the following elements of innovative territorial development: creating general conditions for innovative development of the economy, ensuring the possibility of the emergence and implementation of innovations, forming the economy's receptivity to innovations; transforming actual production to its required productivity; achieving the necessary financial support for production needs when embarking on an innovative path of development [42].

Asheim B. discusses innovation policies and regional innovation systems, focus on development paths, which are transformative activities and try to form new directions of innovations system's development [2].

Corò G. et al. estimate level of regional technological development as synthesis of territorial competences, knowledge and employment ratio of synthetic knowledge workers [10].

Schindler S. and Kanai J. Miguel determine infrastructure as main element for territorial development and argue that for urban system development it is necessary to realize large-scale infrastructure projects [38].

The work of N. Machnachova describes the features of smart development of local communities and defines the criteria for evaluating smart development [26].

Chaminade C. et al. discuss that the type of regional innovation system determines the direction of industrial transformation. It means that the region can radically change the technological basis of development in the powerful regional and national policies, or the subjects of the territory independently form innovations, and the region is only a recipient of externalities from such innovations. At the same time, it is difficult to form the innovative endogenous development of the region in terms of the coordination of innovative initiatives [7].

Grillitsch M. et al. analyse such characteristics of innovation system as capacity and involving of actors, networks, and stakeholders in four domains: directionality, experimentation, demand articulation, and policy coordination and learning [16].

Henning Kroll works with system of factors that form smart specialization's policy design and concludes about stronger influence of regional specifics than features of national cultures to policy design [18].

In research of Paswan A. et al. were proposed typical orientations to branding-innovation – low level of innovation and weak branding; low level of innovation and substantial branding; significant innovation and weak branding; significant innovation and important branding. As a result, the company chooses a strategy depending on the market, consumers, demand and resources [35].

Brexendorf T. et al. form framework to help formalize the interrelationship of innovations and brand management. Main conclusion of article is brand management and innovations need and benefit from each other [6].

In the work of Yao Qiong, Liwen Huang, Mingli Li, the positive influence of innovation and the conditional impact of institutional factors on brand equity are argued. Key findings are: the development of the product market positively moderates the relationship between technical innovations and brand equity. The researchers did not find a significant impact of non-technical innovations on brand equity [48].

Nguyen Bang et al. argue that more innovative brands increase performance [31]. Zameer H. et al. dedicate that directly influence on brand prototype consumer perception of process innovation, marketing innovation, product innovation [50].

Moliner-Velázquez, B. et al. analyse impact of the perception of value, retail innovativeness to the retailer brand equity and conclude that more innovations link to higher efficiency and aesthetics stimulation of brand equity [29].

Hanaysha J. et al. examine connection between product innovation, product quality and brand image. Conclusions of research are: product innovation and product quality are highly connected with brand image; product innovation and product quality are strong connected with brand trust [17].

Research by Mechthild I.M. Donner explains how the regional brand contributes to territorial development. The research examines the impact of French and Moroccan local food and tourism brands on the sustainable development of Mediterranean rural areas [27]. Bernardi A et al. identify innovative and sustainable activity of textile and fashion companies are tools for achieving a competitive advantage [5]. Domínguez García, M. et al. determine strong relationship between place branding and sustainable territorial development [11].

Goi CL. argues that technological innovation has changed the efficiency of society. Technological innovations have changed people's behavior patterns with the rapid growth of cities. Technological innovations have a positive effect on the construction of a sustainable city [15]. Héraud Jean-Alain forms the meaning and peculiarities of creativity, a creative approach to innovation and territorial development [19]. Concilio G., Li C., Rausell P., Tosoni I. consider the ability of cities (i.e., more developed than rural areas) to produce innovations [9].

Jin S. and Kim D. have established a positive relationship between the ability of companies to carry out innovative developments, obtain patents and increase the effectiveness of activities [23].

S. Perminova singles out the stages of the company's patent strategy, aimed at increasing its market capitalization, increasing the level of business reputation, investment attractiveness, and securing stable positions on the market through innovative monopoly [36]. Travis J. Lybbert, and Mingzhi Xu identify relationships between patent flows (registration, purchase, sale) and economic opportunities of territories. In particular, the researchers suppose that the flow of patent applications for specific products in international trade networks reflects the perception of firms about the innovative potential of a particular economy, i.e., they act as a signal for decisions regarding investments in a particular economy, etc. [47].

Bach T.M. etc. systematized studies devoted to the relationship between innovations and the results of private companies. The authors identified the following clusters of relationships: 1) innovation and efficiency combined with a social networking approach; 2) innovation and performance related to organizational culture; 3) environmental innovations and efficiency; 4) dimensions of innovation and efficiency; 5) investments in R&D related to innovation and productivity; 6) other relationships between innovation and productivity [4]. The researchers argued for a positive relationship between innovation and the companies' effective work.

Andrews D. believes that performance gaps increase between productivity leaders and other businesses. The widening gap between the "best and the rest" companies forms questions for territories about what might prevent companies from adopting existing innovations [1].

Skeie Ø. etc. argue that lower corporate taxes determine more patent applications produced in the territory (a reduction in the preferential tax rate on patent income by 5 percentage points increases the number of patent applications by 6%) [41].

Atun R. et al. analyze the environment's role in institutionalizing innovation, the creation of intellectual property, and rewards for investment in intellectual property across countries. The authors also prove that a country's competitive advantage in the world market is achieved by investing in research and development, creating intellectual property, and commercializing intellectual property products [3].

The results of the study by Raghupathi V., Raghupathi W. demonstrate that low-GDP countries are oriented towards foreign cooperation in creating innovations. Countries with a high level of foreign patent ownership have low tax revenues as a percentage of GDP. Multinational companies, which are the leading producers of patents, locate intellectual property in countries with low taxes, thereby reducing the tax burden [34].

Therefore, the analyzed studies determine the following relationships: 1) Innovations – brands; 2) Brands – territorial development; 3) Patents – the results of the company's work; 4) Patents – opportunities for the territorial development; 5) Innovations – the results of the company's work; 6) Innovations – development of cities; 7) Institutional environment – patents; 8) Lower taxes – an active patenting in the country, an increase in the number of

patented innovations in the country; 9) Industrial policy – innovations – territorial development (Fig. 1).

Accordingly, these relationships can be combined in three direction-clusters of research: 1) Studies that determine the positive impact of brands on the territorial development, on obtaining intangible benefits from innovations for companies; 2) Studies trying to explain the influence of patent activity on the territorial development and the conditions for the formation of high patent activity; 3) Studies explaining the impact of patents and innovations on the results of companies' work.

Therefore, the territorial development is formed by the innovative progress of business entities. It is determined by the sectoral priorities of innovative activity. The intangible assets, in particular, brands of companies based on innovations, act as an additional factor in strengthening the impact of innovations on the territorial development, and therefore increases the efficiency of the latest.

Objectives of the article is to develop the theoretical framework of interrelationship's innovations, brands of companies and territorial development.

Methodology. The analysis involved 2 stages. In the first stage, the literature review identified interrelationships in the system "innovation – brands of companies – territorial development".

In the second stage, a framework of interrelationships, "innovations – company brands – territorial development" was built. Framework indicators: 1) innovation indicators of companies: number of the created innovations, number of implemented innovations, number of patents; 2) financial and economic indicators of the company: expenses for the company's promotion, brand value, revenue, taxes; 3) indicators of the territorial development: the budget of the territory, the GDP of the territory, the number of business entities located in the territory; the number of business entities registered in the territory.

Summary of the main results of the study. The crisis caused by the pandemic has changed the innovation landscape. In 2018, R&D spending grew by 5.2% compared to 2017, faster than global GDP growth. The private sector

carried out the central part of innovation financing since governments gradually canceled measures to stimulate innovation, which they introduced after 2009. The results of international comparisons in 2020 revealed a trend: the more developed the economy, the more it produces innovations, and vice versa [14].

To increase profit margins, low- and middle-income companies in economies try to develop their brands or acquire them from abroad. It is not enough to have innovations, it is necessary that products released with these innovations are in demand on the market [14].

The USA is the leader in terms of brand value. Among 5,000 brands, it has 4.3 trillion US dollars, followed by China with 1.6 trillion US dollars and Japan with 0.7 trillion US dollars. The United States are among leaders in the brands quantity (1,359 out of 5,000). In both cases, the difference in indicators between the USA, China and the rest of the world is significant [14].

That is, a richer economy produces more global brands, and vice versa.

Thus: 1) In the long term, technological changes define the economic development of the country/territory; 2) Industrial production remains the most significant factor of changes, because this sector is the most important source of work, innovation and increase in labor productivity; 3) In addition to industrial production, the growth of the territory's economy provides a boom in technological investment; 4) The more developed the territory's economy, the more innovations it produces, and vice versa; 5) Private companies are the largest producers of innovations in the world; 6) The company does not innovate enough. Products/services produced with these innovations should be in demand on the market; 7) There is a dependence between the level of territorial development and the number of brands registered on it (a higher level of development means a greater number of brands).

The framework of interrelationships "innovations – brands of companies – territorial development" is presented in Fig. 2.

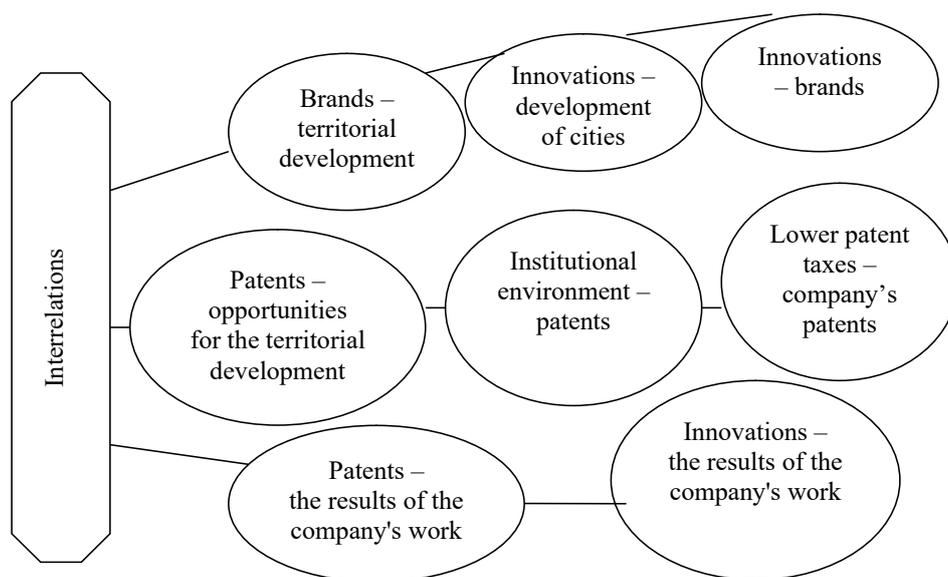


Figure 1. Interrelationships “Innovation – Brand of Companies – Territorial Development”

Source: compiled by the authors

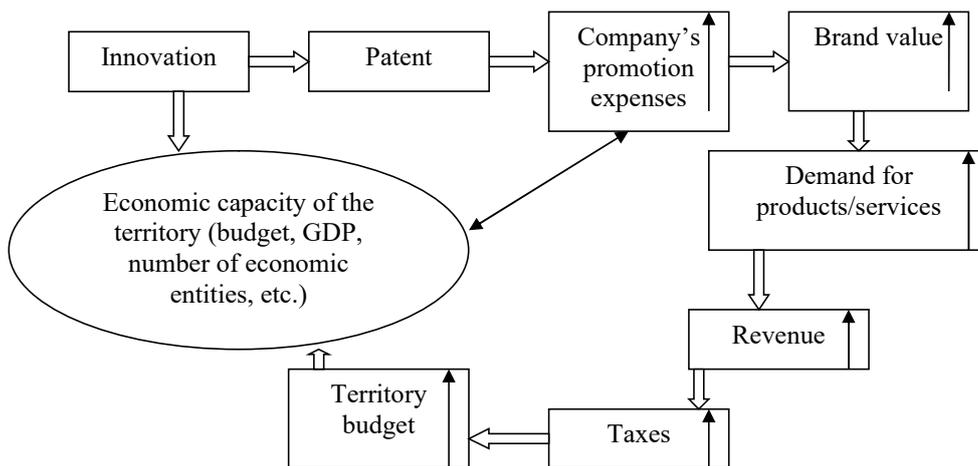


Figure 2. Framework of Interrelationships “Innovations – Brand of Companies – Territorial Development”

Source: compiled by the authors

Indicators of the interrelationships framework "innovations-brands of companies-territorial development" are shown in Table 1.

Thus, the main results of the conducted research are:

- The economic development of the country/territory is determined by technological changes, primarily in the industrial sector;

- A higher territorial development forms its higher ability to produce innovations, which in turn can expand development opportunities, provided that innovations are implemented into products/services that are in demand on the market;

- Products/services created using innovations begin to be in demand on the market in most cases with the presence of brands and their promotion;

- Indicators of the "innovations-brands of companies-territorial development" relationship framework are: 1) innovative indicators of companies: the number of created innovations, the number of implemented innovations, the number of patents; 2) financial and economic indicators of the company: expenses for the company’s promotion, brand value, revenue, taxes; 3) indicators of the development of the territory: the budget of the territory, the GDP of the territory, the number of business entities located in the territory; the number of business entities registered in the territory.

Conclusions. The aim of research is to develop the interrelationship’s framework of innovations, brands of companies and territorial development

A larger territory budget determines the regional economic capacity, expanding opportunities and directions

Table 1

Framework Indicators of Interrelationships “Innovations – Brand of Companies – Territorial Development”

Groups of indicators	Object of analysis	Indicator	Criterion of development, in relation to the previous year
Innovative indicators of companies			
1	Innovation activity of company	Number of innovations created, units.	↑
2	Innovation activity of company	Number of patents, units	↑
3	Innovation activity of company	The number of introduced innovations, units	↑
Financial and economic indicators of companies			
1	General activity of company	Expenses for the promotion of the company, money units	↑
2	General activity of company	Brand value, money units	↑
3	General activity of company	revenue, money units	↑
4	General activity of company	Taxes, money units	↑
Indicators of territorial development			
1	Activity of territory	GDP of the territory, money units	↑
2	Activity of territory	The size of the territory's budget, money units	↑
3	Activity of territory	The number of business entities located on the territory, units	↑
4	Activity of territory	The number of business entities registered in the territory, units	↑

Source: compiled by the authors

of development. At the same time, innovations provide an opportunity for the technological upgrade of the territory and the formation of its development ways within the framework of the fourth and fifth industrial revolutions technologies.

In turn, inventive activity, aggregated into indicators of patent activity, determine the number of innovations in the territory. There is a chain of the interrelationship between "innovations-brands of companies-territorial

development". The higher the elasticity between the number of innovations and the company's brand value, the more the company can attract investment and also has greater consumer loyalty. In turn, the company's brands create a signal to investors that the area where the company is located is favorable for doing business. It determines the increase in investment flows to the area, which creates new jobs, territorial development, and social infrastructure.

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