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Marchenko T.V.,
*cand.sc.(econ.), assistant at the department
of international economics,
Yuriy Fedkovych Chernivtsi National University*

INNOVATIONS AND DYNAMISM OF ECONOMIC DEVELOPMENT: INNOVATIVENESS OF J.A. SHUMPETER

Марченко Т.В.,
*канд. екон. наук, асистентка кафедри
міжнародної економіки,
Чернівецький національний університет
імені Юрія Федьковича*

ІННОВАЦІЇ ТА ДИНАМІЗМ ЕКОНОМІЧНОГО РОЗВИТКУ: НОВАТОРСТВО Й.А. ШУМПЕТЕРА

Formulation of the problem. The modern market economy is characterized by dynamism and instability of the processes taking place in the market. The beginning of the new millennium is marked by the creation of a global information society, the emergence of a new technological method of production, and is characterized by a transition from a resource-intensive type of economic development to an innovative one. The main resource of effectively functioning systems is the creative, innovative abilities of people, intellectual capital. The innovative way of development involves the interconnected effective functioning of the scientific, technical, industrial, financial, social, motivational, spiritual spheres, the natural environment of human life and public institutions.

Globalization and intellectualization of the economy, accompanied by high rates of innovation in the world economy, are changing the socio-economic structure of modern societies and production processes. It becomes obvious that in order to solve economic problems, new approaches and qualitative progressive changes are needed. The need for the growth of innovative activity is increasingly driven by the need for structural transformation of the economy and ensuring its global competitiveness.

The study of the main parameters and consequences of innovations from the standpoint of establishing their links with the characteristics of scientific and technological development is an urgent task in the context of taking these parameters into account in order to establish effective mechanisms for introducing an innovative development model, as well as its adaptation to modern internationalization trends.

Analysis of recent research and publications. The need for increasing scientific activity in the study of innovations, the innovation process and its components is increasingly substantiated by domestic and foreign economists and scientists. Separate aspects of this issue were considered by such scientists as Ya. Voronetskyi, B. Danylyshyn, V. Holikov, S. Mochernyi, J. Parker, C. Prahalad, O. Sosnin, M. Tushman, J. Schumpeter. Regarding foreign scientific research, where various aspects of the scientific work of J. Schumpeter are analysed, it should be noted, first of all, the works of famous american scientists W. Baumol, A. Heertje, Th. McCrow, K. Freeman and F. Louca, which explore innovations, entrepreneurship, profit entrepreneurship, the "creative self-destruction" of capitalism, etc. [6; 8-10]. The issues of innovative entrepreneurship, the Schumpeterian entrepreneur, the relationship between economic systems and technological progress, the development of economic theory in the light of the concepts of the scientist are considered in the works of A. Chukhno [7], P. Morone and R. Taylor [11]. At the same time, the urgent problem of the world community is the translation of the provisions and principles of innovation into the plane of their practical consistent system implementation, establishing the relationship of the "new economy" with innovation processes in the context of the transformation of the world economy.

Setting objectives. The main purpose of the article is to study the evolutionary nature of the theoretical legacy of J.A. Schumpeter, its influence on the features of the formation of scientific thought about the main elements of innovation in the process of economic development.

Presentation of the main material of the study. The latest geopolitical changes, the expansion of trade cooperation, the transition to the information society – all these factors entail global transformations. The globalization of the economy in modern conditions exacerbates the competitive struggle in the field of innovation, intellectualization of production, production of the latest information technologies. It is no coincidence that recently in industrialized countries there has been an expansion and deepening of stimulation of the process of attracting financial resources and specialists in the field of high technologies. Measures for

the use of innovations stem not only from the needs of the self-sufficient development of national economies, but also from attempts to ensure the dominance of the latest technologies in the markets, to fill a certain “technological gap” in the world space, thereby realizing their national interests.

As the experience of the world economy of the 19th-20th centuries shows, the basis for breakthroughs in economic development was revolutionary changes in the method of producing material goods and meeting the growing needs of the population due to innovations. Beginning of the 21st century characterized by transformations that determine the parameters of the global social order and are due to those technological shifts that began three decades ago [4; 6].

The modern technological revolution is based on knowledge, including information and communication technologies (ICT). The changes that this revolution brings are so profound that even the term “new economy” has appeared, one of the main attributes of which is knowledge as the main factor of production and wealth generation.

Another term that appeared after the progressive changes is the concept of “knowledge-based economy” (KBE). In this view, the economy is defined as “directly based on the production, distribution and use of knowledge and information”. The economic growth of the country and the level of competitiveness of products are determined by the development of science, the speed of the introduction of technological innovations and the guarantees of quality that only a knowledge-based economy can provide. Many countries in the world trade not in industrial products, but in intellectual property products. Consequently, success is achieved by those who have the most advanced technologies and are able to implement them in production.

A new socio-economic, spiritual content is given to the concept of innovation in the context of the growing influence of globalization taking place against the background of the transition from the industrial to the post-industrial stage of economic development. In the context of globalization, a new model of modern economic development is being built, which is based on the ability of society to form, disseminate, apply knowledge, and generate new knowledge. The concept of “knowledge-based economy”, or “intellectual economy”, means the recognition that scientific knowledge and specialized unique human skills become the main source and key factor in the development of material and non-material production, ensuring sustainable economic development [1-2].

According to EU scientists, building a globally competitive KBE requires a unified proactive strategy. It requires flexible institutions, frameworks that make it easier to adjust to rapid change, and a creative and proactive private sector that can take advantage of the new opportunities that change brings. Creating the conditions for the development of KBE by the accession countries is a challenge as difficult as it is urgent. Knowledge is no longer the privilege of the elite, economic development in the country is determined not only by the accumulated knowledge of fundamental science, but, above all, by the possibilities for the widest possible mastery of it and its application. High rates of obtaining and disseminating knowledge ensure their rapid transformation into technologies and useful inventions and entail high rates of economic growth [13].

The defining features of a knowledge-based economy are:

- replacement of labour knowledge, which marks the transition from purely technical skills to intellectual ones. The labour theory of value is replaced by the “knowledge-created” theory. According to the scientist T. Sakaya, the driving forces of the new stage of civilization are the values created by knowledge. A new economy is being formed, functioning on the basis of the exchange of knowledge rather than goods. The replacement of traditional labour activity by a new type of activity with its inherent elements of human creativity becomes reliable [5];

- the ratio of the cost of intellectual funds of companies (information, knowledge, intellect) in comparison with material resources is estimated at a level between 5:1 and 6:1. Every dollar invested in research and development brings in eight times more profit than a dollar invested in the development of technology. Consequently, investments in R&D are the most important and most effective (along with preparation) type of investment, and patenting is a traditional tool for disseminating technical information, a tool for transferring knowledge from an inventor to a consumer of intellectual products [3];

- the transition from technocratic to anthropocentric organization of production and labour means the replacement of the narrow specialization of workers for the universalization of activities. The latter requires the training of workers who are able to carry out verification, evaluation, creative synthesis of information, penetrate into the essence of problems, etc., thus becoming the driving force of the scientific and technological revolution [6];

- the fulfillment by knowledge of the status of one of the main resources of power. Success in politics and business is determined by the ability of leaders to manipulate valuable information, and the main form in the struggle for power is the struggle for new sources of knowledge;

- the knowledge economy forms a new motivation for work, as well as a new type of social interaction. The motive for increasing personal material wealth ceases to be the main one and is replaced by higher spiritual motivations. The subject-object relationship between man and the material and natural world, characteristic of the industrial type of society, is replaced by interpersonal interaction, in the process of which new knowledge is born.

Consequently, taking into account the trends of the post-industrial society, in which knowledge as a “collective good” becomes a factor of innovation, allows us to expand the interpretation of innovation in the innovation process. The latter cannot be considered only within the framework of the technocratic paradigm, and innovations created by knowledge can no longer be limited to the sphere of entrepreneurial activity [14]. Innovations arise in all spheres of human activity – politics, art, environmental protection, labour, educational, spiritual spheres.

In the world economic literature, the concept of “innovation” is interpreted as the transformation of the potential of scientific and technical progress into real innovations embodied in new products and technologies. According to the figurative expression of J. Parker, there is a transformation of promising technical possibilities into market reality [13].

According to the standards and recommendations of international organizations in the field of science statistics, innovation is the end result of innovation, embodied in a new or improved product introduced on the market; new or improved technological process used in practice; or in a new approach to social services [11].

The essence of innovation is to use the achievements of the human mind (new ideas, discoveries, inventions, improvements, etc.) to improve the efficiency of activities in any area of manufacturing new tools or products of labour, the use of more efficient technologies, energy sources, the creation of new weapons and means protection from it, in the development of new architectural and artistic styles, improving the forms of labour organization, financial, trade and socio-political institutions, forms of international cooperation, etc. The list of possible innovations and areas of their use is inexhaustible - like the inexhaustible ingenuity of the human mind and the diversity of human activities, the versatility of his interests. Consequently, innovation is an indispensable element in the implementation of the basic laws of the development of society, a condition for its dynamism and survival.

It should be noted that innovation is the result of a certain activity realized on the market, obtained as a result of investing capital in the creation of a new product or process (technology). When selling an innovation, a commodity-money exchange takes place. The funds received as a result of this exchange should compensate for the costs of all links in the innovation chain – from the creation to the sale of an innovative product or technological process, bring profit from the implementation of innovations, provide an incentive to create new innovations, and become a source of financing for a new innovation process. An essential characteristic of innovation is not only production, but also the successful launch of an innovative product on the market, that is, a commercial orientation [7].

The main features of innovation activity are related to the use and commercialization of the results of scientific research and development to expand and update the range and improve the quality of products (goods, services) with the introduction of improved production technologies and the effective sale of products in domestic and foreign markets. Innovative activity involves a set of scientific, technological, organizational, financial and commercial measures that together stimulate innovation.

According to the theory of the Austrian economist J. Schumpeter, innovation literally means the introduction of a scientific discovery, a technological invention. In the broad sense of innovation, however, are the procedures and means by which a scientific discovery is realized in economic innovations. That is, there is a need for those types of activities that ensure the introduction of innovation ideas, as well as the formation of a management system for this process. Innovation is understood as new, which is close to the concept of invention. It takes a certain amount of time between the appearance of an innovation and its transformation into an innovation.

J. Schumpeter in his works "The Theory of Economic Development" (1912) and "Capitalism, Socialism and Democracy" (1942) singled out five typical innovative changes:

1. the introduction of a product with which consumers are not yet familiar, or a new variety of a product;
2. introduction of a production method not yet tested in the relevant industry;
3. the opening of a new market in which this or that branch of national production was not present, regardless of whether this market existed before or did not exist;
4. mastery of a new source of raw materials or semi-finished products, regardless of whether this source already existed or was just created;
5. carrying out a new organization of any industry, for example, gaining the position of a monopolist or losing it [16].

In his theory, J. Schumpeter substantiated the leading role of innovation in the process of economic development, which occurs due not only to an increase in national reserves and means of production, but also to its own redistribution of production means belonging to old combinations in favour of new ones. “Under development we will understand only such changes in economic life that do not affect it from the outside, but come from its own initiative, that is, from within” [15].

According to J. Schumpeter, the main criterion for the success of the economy is the ability to expand production, primarily due to innovation. Although the latter can lead to serious disruptions in existing economic relations, they ultimately lead to benefits for the whole society [9]. Over time, this concept has acquired a broader meaning. If earlier it was used mainly in the field of production technology, now it is used to determine new forms of trade policy, personnel management, and the use of functional structures.

J. Schumpeter was the first among economists who tried to explore the relationship of innovation with the possibilities of implementing innovations. He defined the basic position of the concept of uneven innovation activity. An important conclusion is made that innovations have a dual impact on the dynamics of economic growth: on the one hand, they open up new opportunities for expanding the economy, and on the other hand, they make it impossible to continue this expansion in traditional directions. Innovations undermine the economic balance, bring disorder and uncertainty into economic dynamics [10].

According to the theory of J. Schumpeter, innovation is accompanied by the creative destruction of the economic system, causing its transition from one state to another. An important provision of the theory in the implementation of innovations is the introduction of new products and production methods.

The significance of the works of J. Schumpeter is especially relevant at the present stage of reforming economic science after the global crisis. Nobel Prize winner in economics Joseph Stiglitz notes that an important point in the theory of innovation by J. Schumpeter is the statement about the development of competition for innovation. According to him, there was competition for markets, not competition in the markets, and this competition was fought through innovation. In the modern world, innovations are becoming a determining factor in the dynamic development, transformation and competitiveness of socio-economic systems throughout the world.

The innovative type of development is characterized by a shift in emphasis from scientific and technical solutions to the use of fundamentally new progressive technologies, a transition to the production of high-tech products, progressive organizational and managerial decisions in innovation, with regard to both micro- and macroeconomic development processes – the creation of technology parks, technopolises, pursuing a policy of resource saving, intellectualization of all production activities [12].

The need for technological changes or the transition from one stage of civilization development to another was substantiated in the innovative theory of J. Schumpeter, who noted that the development of any socio-economic system is set by the concept of “implementation of new combinations”, i.e. innovations [16]. J. Schumpeter contrasted his theory of economic growth with the theory of economic growth by J. von Neumann, who did not take into account technological progress as a factor in economic development at all. Then came M. Kaletski's theories of development, S. Shmukler's studies, fully recognizing the significant impact of technological change on economic growth. J. Schumpeter's theory was adopted by such prominent economists as P.A. Samuelson, J. Tinbergen, W. Forrester, E. Mandel.

Conclusions from the conducted research. The creation by J. Schumpeter of the theory of a qualitatively new innovative type of development is an outstanding contribution that radically changed the traditional ideas about economic development and economic growth. Schumpeter's ideas about the internal stimulating role of innovation and technological progress served as a kind of starting point for the further formation of various theories of the transformation of the capitalist system, its transition to a higher stage of development (industrial and post-industrial society). To date, the advantage, first of all, has manufacturers who are actively introducing new technologies and technological processes. This allows us to adequately respond to changing consumer demand and produce high-quality competitive products. The experience of many countries has shown that through the introduction of new forms and methods of innovation activity, the rise and growth of industrial production become possible. Thanks to the expansion of the innovation market, enterprises can increase labour productivity and attract new reserves to the production sector.

The growth of the competitiveness of the economy, the development of global processes in the field of R&D depends on the active implementation of innovation policy and the stimulation of innovation activity. Prospects, sustainable and safe development of the country can only be ensured by the formation of a “new economy”. The path to creating such an economy is through innovation. It can be stated that the economic growth of any country in modern conditions largely depends on its ability to adapt to technological shifts in time.

Thus, the development of the economy on an innovative basis requires a clear definition of the content and purpose of the process of innovative development of the economy, its goals, strategic directions and implementation mechanisms; development and implementation of a system of measures to support innovation activities by methods of market and state regulation, as well as the formation of an organizational and managerial infrastructure that can give a new impetus to modernization and increase the efficiency of the economy.

Literature

1. Воронецкий Я. Створення польської системи інновацій та побудова економіки, яка ґрунтується на знаннях. *Регіональна економіка*. 2006. № 1. С. 164-174.
2. Голіков В. І. Інформатизація як фактор постіндустріального розвитку. *Економіка і прогнозування*. 2003. № 1. С. 5-10.
3. Данилишин Б., Куценко В. Інтелектуальні ресурси в економічному зростанні: шляхи поліпшення їх використання. *Економіка України*. 2006. № 1. С. 71-79.
4. Мочерний С. Моделі трансформаційних процесів економіки. *Економіка України*. 2000. № 2. С. 11-17.

5. Соснін О. Інновації: кризь призму сьогоденних реалій. *Науковий світ*. 2004. № 9. С. 8-12.
6. Фримен К., Лука Ф. Як час спливає: від епохи промислових революцій до інформаційних революцій / перекладач Р. Ткачук. Київ : ВД "Києво-Могилянська академія", 2008. 510 с.
7. Чухно А. А. Вибрані праці : у 2 т. Київ : ДННУ "Акад. фін. управління". 2012. Т. 1. 557 с.
8. Baumol W. J. *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*. Princeton, N. J. : Princeton University Press, 2002. 318 p.
9. Heertje A. *Schumpeter on the Economics of Innovation and the Development of Capitalism*. Cheltenham : Edward Elgar, 2006. 142 p.
10. McCraw Th. K. *Prophet of Innovation: Joseph Schumpeter and Creative Destruction*. Cambridge Mass. : Harvard University Press, 2007. 719 p.
11. Morone P., Taylor R. *Knowledge Diffusion and Innovation*. Cheltenham, UK; Northampton, USA : Edward Elgar, 2010. 177 p.
12. Tushman M., William L. *Moore Readings in the management of innovation*. USA : Harper Business, 1988. 769 p.
13. Parker J. E. S. *The Economics of Innovation. The national and multinational enterprise in technological change*. 2nd edition. London, New York : Longman, 1978. P. 50.
14. Prahalad C. K., Krishnan M. S. *Die Revolution der Innovation*. München : Redline Verlag, Finanzbuchverlag GmbH, 2009. 336 p.
15. Schumpeter J. *History of Economic Analyses*. London : Allen and Unwin, 2000. P. 39-40.
16. Schumpeter J. *Capitalism, Socialism, and Democracy*. Third Edition. Harper Perennial Modern Thought, 2008. 431 p.

References

1. Voronetskyi, Ya. (2006), "Creation of the Polish system of innovations and economic development, as it is based on knowledge", *Regional economy*, no. 1, pp. 164-174.
2. Holikov, V.I. (2003), "Informatization as a factor of post-industrial development", *Economics and forecasting*, no. 1, pp. 5-10.
3. Danylyshyn, B. and Kutsenko, V. (2006), "Intellectual resources in the economic growth: ways of growing and winning", *Economy of Ukraine*, no. 1, pp. 71-79.
4. Mochernyi, S. (2000), "Models of transformational processes of the economy", *Economy of Ukraine*, no. 2, pp. 11-17.
5. Sosnin, O. (2004), "Innovations: a crisis of contemporary realities", *Scientific world*, no. 9, pp. 8-12.
6. Freeman, K. and Louçã, F. (2008), *Yak chas splyvaie: vid epokhy promyslovykh revoliutsii do informatsiinykh revoliutsii* [As Time Goes By: From the Industrial Revolutions to the Information Revolution] / translator R. Tkachuk, VD "Kiev-Mohyla Academy", Kyiv, Ukraine, 510 p.
7. Chukhno, A.A. (2012), *Vybrani pratsi : u 2 t.* [Selected practices: in 2 v.], DNNU "Acad. fin. management", Vol. 1, Kyiv, Ukraine, 557 p.
8. Baumol, W.J. (2002), "The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism", Princeton University Press, Princeton, N. J., USA, 318 p.
9. Heertje, A. (2006), "Schumpeter on the Economics of Innovation and the Development of Capitalism", Edward Elgar, Cheltenham, England, 142 p.
10. McCraw, Th.K. (2007), "Prophet of Innovation: Joseph Schumpeter and Creative Destruction", Harvard University Press, Cambridge Mass., USA, 719 p.
11. Morone, P. and Taylor, R. (2010), "Knowledge Diffusion and Innovation", Edward Elgar, Cheltenham, UK, Northampton, USA, 177 p.
12. Tushman, M. and William, L. (1988), "Moore Readings in the management of innovation", Harper Business, USA, 769 p.
13. Parker, J.E.S. (1978), "The Economics of Innovation. The national and multinational enterprise in technological change [2nd edition]", Longman, London, New York, p. 50.
14. Prahalad, C.K. and Krishnan, M.S. (2009), "Die Revolution der Innovation", Redline Verlag, Finanzbuchverlag GmbH, München, Germany, 336 p.
15. Schumpeter, J. (2000), "History of Economic Analyses", Allen and Unwin, London, England, pp. 39-40.
16. Schumpeter, J. (2008), "Capitalism, Socialism, and Democracy: Third Edition", Harper Perennial Modern Thought, USA, 431 p.