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SOCIO-ECONOMIC STATUS OF CREATION AND INTRODUCTION OF INNOVATIVE DIFFUSIONS

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СОЦІАЛЬНО-ЕКОНОМІЧНИЙ СТАН СТВОРЕННЯ ТА ВПРОВАДЖЕННЯ ІННОВАЦІЙНИХ ДИФУЗІЙ

The article defines that modern innovative solutions in the field of designing and implementing social changes should be aimed at intelligent adaptation to modern socio-cultural and economic changes, which through unconscious spread very quickly penetrate into society and accelerate its economic development. The implementation of these solutions requires an appropriate interpretation of the socio-economic status of the creation and implementation of innovative diffusions. The problems of limited resources, the quality of the functioning of the institutional environment, geographical factors and natural conditions, the relationship between the main subjects in the labor market, the determination of individual factors that affect the development of innovative activity, including the intensity of the transfer of innovations, were covered in the works of scientists of various economic schools and eras.

The purpose of the article is to demonstrate the socio-economic status of the creation and implementation of innovative diffusions, as well as the socio-economic consequences and conceptualization of the functional necessity of the spread of

innovations in the socio-economic dimension.

It has been established that rational adaptation to modern socio-cultural, economic and civilizational changes, which are quickly penetrating Ukrainian society through unconscious spread, is the basis for the introduction of innovative platforms for the development of socio-economic systems. The authors determined that the type of economic paradigm that is becoming dominant when choosing alternatives for rapid socio-economic development is currently innovative. It is emphasized that the imperatives of innovation are the generation and mastering of new knowledge, the development and implementation of new ideas. The cause-and-effect relationship of the influence of social transformations on the economic effectiveness of the implementation of innovative diffusions was studied, on the basis of which the socio-economic concept of innovative diffusions was formed, taking into account the synergy of the "triple spiral". The defined concept has a direction of practical implementation through the activation of its main components: business units, government institutions and educational platforms.

У статті визначено, що сучасні інноваційні рішення в області проектування і реалізації соціальних змін, мають бути спрямовані на розумну адаптацію до сучасних соціокультурних та економічних змін, які шляхом через несвідоме поширення дуже швидко проникають в суспільство і прискорюють економічний його розвиток. Реалізація цих рішень вимагає відповідного тлумачення соціально-економічного статусу створення та впровадження інноваційних дифузій. Віддаючи належне результатам наукового пошуку зарубіжних і вітчизняних науковців у сфері інноваційного шляху розвитку, що розуміється як поширення нових ідей у певній соціально-економічній системі, має дослідницький характер, але також має дуже практичний вимір. Потрібно визнати, що сьогодні проблема розповсюдження через соціально-економічні наслідки інновацій та проектування процесу розповсюдження з метою мінімізації наслідків соціальної нерівності залишається відкритою. Метою дослідження є демонстрація соціально-економічного статусу створення та впровадження інноваційних дифузій, а також соціально-економічні наслідки та концептуалізація функціональної необхідності поширення інновацій в соціально-економічному вимірі. Встановлено, що раціональна адаптація до сучасних соціокультурних, економічних та цивілізаційних змін, які шляхом через несвідомого поширення дуже швидко проникають українське суспільство є підґрунтям для запровадження інноваційних платформ розвитку соціально-економічних систем. Авторами

визначено, що інноваційним наразі є той тип господарської парадигми, який стає домінуючим при виборі альтернатив швидкого соціально-економічного розвитку. Підкреслено, що імперативами інноваційності стають генерування та освоєння нових знань, розробка й впровадження нових ідей. Досліджено причинно-наслідковий зв'язок впливу соціальних перетворень на економічну результативність впровадження інноваційних дифузій, на підставі чого сформовано соціально-економічний концепт інноваційних дифузій враховуючи синергію «потрійної спіралі». Означений концепт має напрям практичної реалізації через активізацію основних його складових: бізнес-одиниць, владних установ та освітніх платформ.

Keywords: *socio-economic status of innovations, information barriers, synergy of the "triple spiral" of innovations.*

Ключові слова: *соціально-економічний статус інновацій, інформаційні бар'єри, синергія «потрійної спіралі» інновацій.*

Target setting. The importance of ensuring the socio-economic status of the results of innovative activity in the management process cannot be overestimated, since both the efficiency of innovative activities of manufacturers and the prospects for the country's development as a whole depend on the specifics of its implementation.

On the part of the producer of the results of innovative activity, a significant amount of work must be carried out in order for the specified results to become investment attractive for the consumer. Such tasks consist in the formation of a system of innovation support, which would best satisfy the needs of the consumer of the results of innovative activity. The buyer of such results, who can be their consumer at the same time, must know for sure that the purchase of these results will increase the competitiveness of the enterprise's innovative products, increase the amount of profit in the future, improve the financial situation, etc. Comparison of alternative options of innovations can be carried out according to such features as: reliability, level of competitiveness, level of efficiency, purchase price, payback period of investments in this innovation, etc.

The practice of the functioning of socio-economic systems shows that certain innovative solutions in the field of designing and implementing social changes,

created in economically developed countries, can be used to direct and accelerate the development of Ukraine [7]. Implementation of these solutions requires appropriate innovative training of both personnel and society as a whole. The type of economic paradigm that becomes dominant when choosing alternatives for rapid and effective development can be called innovative today. The imperatives of innovation are the generation and mastering of new knowledge, the development and implementation of new ideas. Innovative processes are considered renewable, massive and large-scale [4]. In addition, the most important condition for the effective functioning of the innovative potential is the diffusion of innovations, which can be considered as an independent driver of innovative development [19].

The socio-economic status of innovation diffusion should be interpreted as a special type of communication and communication process. However, the diffusion of innovations is always a social process involving relevant relations and an information process, the parameters of which depend on channels, the perception of subjects, the nature of the relations of the participants, etc. In some cases, the diffusion of innovations should be considered as the arrival of new products on the market by the innovator and their distribution on the market.

Analysis of research and publications. The problems of limited resources, the quality of the functioning of the institutional environment, geographical factors and natural conditions, the relationship between the main subjects in the labor market, the determination of individual factors that affect the development of innovative activity, including the intensity of the transfer of innovations, were covered in the works of scientists of various economic schools and eras.

Paying tribute to the results of foreign (Gewald H., Wullenweber K., Weitzel T. [8], Hägerstrand T. [9], L. Białoń, E. Hippel, P. Kawalec) and domestic (V. Shmatko, V. Vasylenko, S. Illyashenko, N. Matviychuk-Soskina and others) of scientists in the field of innovative path of development, which is understood as the spread of new ideas in a certain socio-economic system, has a research character, but also has a very practical dimension. It must be recognized that today the problem of distribution due to the socio-economic consequences of innovations and the design of the distribution process in order to minimize the consequences of social inequality remains open.

The purpose of the article is to demonstrate the socio-economic status of the creation and implementation of innovative diffusions, as well as the socio-economic consequences and conceptualization of the functional necessity of the spread of innovations in the socio-economic dimension.

Presentation of the main research material. The main subjects of diffusion of innovations are: business (innovative enterprise – the main subject), universities and research institutes, individual scientists and collectives, consumers, the state (authorities and state institutions). The state is involved as the owner or customer of technology and owner of intellectual property rights, owner of scientific research potential, source of capital. It is also necessary to take into account the peculiarities of the diffusion of various types of innovations, for example, radical and improving ones; global and national; food and technological.

The profile of this study is a demonstration of the socio-economic status of the creation and implementation of innovation diffusions, taking into account modern informational aspects on the way to the implementation of innovation diffusions, as well as socio-economic consequences and conceptualization of the functional necessity of the spread of innovations in the socio-economic dimension .

The structural and functional characteristics of the spread of innovative processes can be useful for a more complete understanding of the role and significance of phenomena in the field of widely understood innovations in the process of development and changes occurring in the conditions of the transformation of the Ukrainian system [2, 3]. This is due to the fact that innovations, both the result of one's own invention and creativity, and obtained from external sources as a result of dissemination, are necessary for the acceleration and direction of social and economic development.

In the generally accepted understanding, innovation is a new solution to certain problems, issues that are associated with a change in the current state of affairs and play an important role in the development of a specific area, such as technology, organization, management or ecology. It should be noted that the term "innovation" does not always mean "new" in the world, it can also mean "new" for the socio-economic system [4].

The introduction of breakthrough, fundamentally new technologies in the socio-economic sphere and the sphere of production is associated with a change not only in technological processes, but also in the infrastructure of the industry, organizational and economic relations, and even in the way of ensuring the social well-being of the population.

The driving force behind the innovation diffusion process is interpersonal communication between representatives of different socio-economic groups. As some potential consumers become involved in purchasing or using an innovation, they become a source of information for others. The more people know about the innovation at time t , the more often information about it is transmitted to new potential consumers. Therefore, the number of those who learn about innovations grows exponentially until it encounters the opposite process of decreasing the number of remaining uninformed consumers.

The speed of diffusion of this process depends on five main properties of the innovation, which potential consumers evaluate when deciding whether to use the innovation or not [13, 14]:

1. The relative advantages of innovation as the degree of advantage that innovation has over other (often similar) types of products (processes), most often expressed in economic or social categories (profitability, economy, reduction of pollution, noise, manual labor costs, etc.).
2. The compatibility of the innovation as the degree of compliance of the innovation with the existing system of values (determined by the cultural norms of the social system), past experience and needs of the recipient.
3. Complexity of the innovation as the degree of simplicity and ease of understanding, use or adaptation to the innovation; it is assumed that the complexity of the innovation is negatively related to its acceptance.
4. Simplicity of approbation of innovation as the possibility of approbation of innovation on a limited scale. Sometimes this characteristic of innovation is equated with phasing, divisibility of innovation into separate parts.
5. Communicability of innovation as an opportunity to spread innovation among other recipients.

Therefore, the diffusion of a socio-economic innovation depends both on the strategy of imitators and on the number of "pioneer" recipients. Entrepreneurs open up new technological opportunities, but their implementation depends on the choice of the recipient on the presence of information barriers on the path of innovation diffusion.

An example of the classification of innovative solutions taking into account information barriers to their distribution is the division of sources of innovation, distinguishing among them three categories: personal, commercial and independent (table 1) [2, 17, 20]. The boundaries between the sources of innovation are blurring, however, an external disruptive factor – competition is beginning to act within the mechanisms of innovation dissemination. Moreover, competition is not only in the classical market sense, but also competition of ideas, values, ideology, etc. Competition and individual bidders are trying to attract customers by offering "new products" and stimulating innovative activities in the market. A clear reflection of this is two types of innovations: imitation (for example, the introduction of "Tatra Card" passes in the Ukrainian tourist environment, similar to Austrian and Swiss resorts) or so-called anticipatory innovations - offered to potential customers for the first time.

The innovation process is built on the balance of supplementing the technological development of the invention with commercial implementation and is initially an iterative process where, following consumer feedback, the product is "re-invented" based on its improvement in response to consumer requests [6]. Therefore, in this case, resistance to innovation due to information barriers is considered as a function of the innovation diffusion process, which implies iterative adaptation of innovations to consumer demands.

The very diffusion of innovations can take place effectively only when appropriate adaptive conditions are created and the adapters themselves are stimulated. Diffusion is an important system-forming element of the process of innovative development. Innovation diffusion makes it possible to transmit a selected set of information about an innovative solution, its application possibilities, the benefits it brings, as well as the creation of appropriate practices for the acquisition and implementation of innovations. Time and space are important spheres of

diffusion processes, therefore studies of the diffusion of innovations focus on the analysis of rates and geographical scales of their spread. Here it becomes useful to model innovation diffusions, since they have many advantages, such as: forecasting the phases of development of an innovative solution, the pace of transition of innovation by other units, adaptation of communication methods and marketing activities to the relevant groups, etc [6].

Table 1. Classification of innovative solutions taking into account information barriers to their distribution

Type of source	Sender	
	External	Internal
Personal	Interested consumer Examples: consumer memory and beliefs	Family, friends, other buyers of goods, mass media (information transmitted only on the basis of the opinion of consumers). Examples: personal or virtual conversations using instant messages, online forums, social networks
Commercial	Manufacturers, seller, intermediaries (including consumers, if the initial sender of information is an enterprise). Examples: a conversation with a seller, a manufacturer's website, commercial prospects, advertising activities in the press, on radio, television and the Internet	
Independent	Consumer organizations and associations, state institutions, organizations that conduct independent comparative product tests, industry organizations. Examples: results of independent product tests, certificates and quality marks, information labels, educational and consumer programs, consumer magazines	

Diffusion models have their advantages and disadvantages, therefore, when studying a specific environment, one should carefully analyze the type of innovation that spreads, factors specific to the chosen environment, and a number of other equally important aspects.

It is worth noting that the organizational form in which the spread of innovations occurs faster and more efficiently is a cluster. In the scientific studies of scientists, the definition of the concept of "cluster" is considered, first, as a group of enterprises, firms, institutes [16]; secondly, as a form of industrial organization; thirdly, as an industrial complex [14, 15]. Andersson T., Schwaag Serger S. the cluster is considered as a large group of firms of closely related industries within the same area, i.e. an attempt is made to apply an inter-industry approach, which in modern conditions of operation must be developed in order to solve urgent socio-

economic problems and ensure development economy of the state, city and districts [1]. Solutions to socio-economic problems cannot be achieved without the participation of authorities and educational institutions that form competitive personnel. This circumstance is confirmed by the research conducted by scientists M. Steiner [18], who present the cluster as a number of complementary firms (in the production or service sectors), public, private and semi-public research institutes and development institutes, which are connected by the labor market and/or cost-output relationships, and/or technological relationships.

The interpretation of the cluster as a set of different business entities, whose interaction is carried out by means of vertical and horizontal economic ties and their symbiotic interdependence, deserves attention. So, summarizing the achievements of foreign and domestic scientists regarding the definitions of the concept of "cluster", it can be stated that the study of this concept, taking into account the consolidation of efforts of all participants in the socio-economic process, is relevant and timely, and the cluster as an economic category should be considered from the point of view of unification efforts of market entities to achieve the set goals on the basis of direct, indirect and synergistic relations.

There are a number of classification features by which subjects are grouped into homogeneous groups. Such characteristics should include territorial location (national, regional, local), nature of appearance (spontaneous, deliberate), method of formation (industry, vertically integrated, horizontal), etc [10, 11]. Moreover, regardless of the classification feature, all clusters can be strong, stable, potential and latent. However, on the part of scientists, close attention is paid to mixed-type clusters, for example, production-educational clusters, the main task of which is the formation of an effective professional and qualified staff in a fundamentally new way, taking into account the peculiarities and specifics of the territories. Based on this, the formulated definition will be as follows: a production and education cluster is a set of business units concentrated mainly by territorial characteristics of both one and different spheres of activity, which are in a consolidated long-term multi-level interaction and interdependence with other economic subjects (enterprises, educational institutions, authorities) with the aim of achieving rational ratios in market supply and demand [12].

Features of the industrial and educational cluster include: stable and long-term economic ties, participation in innovative training and retraining programs for highly qualified personnel, improvement of production and management technologies, improvement of the control system, creation and implementation of a partnership model in the "business-education-government" system. The economic essence of the interaction "business-education-government" is based on the concept of "triple spiral" (Fig. 1), in the center of which there is a production-educational cluster operating on the basis of the principles of coherence, orientation, transparency, systematicity, integrity, manageability, innovation, multilevel, balanced and strategic [5]. The result of the interaction is the achievement of socio-economic efficiency, which is expressed in the coherence of the interests of the cluster participants, increasing the efficiency of professional education; increasing the competitiveness of cluster participants; introducing innovations into the educational and production process.

The socio-economic concept of innovative diffusions is based on the productive activity of each actor in a triple spiral, which harmoniously complement each other. The creation of connections between companies within the cluster, the constant exchange of information make it possible to increase the level of development of companies, and therefore also to increase their innovations. The achievements of some companies in the cluster provoke the desire of others to increase their efforts, which causes a chain reaction of continuous improvement, starting from the generation of new ideas and ending with the achievement of concrete results. The advantages of cooperation and support of structures are also transferred by clusters to state authorities. Thanks to the efficient functioning of the cluster, the range of offered products and services increases, new jobs are created, and therefore the state becomes a richer and more attractive place for potential investors. The third element of the cluster is research units. They perform at least three important functions: provide advanced scientific and technical ideas that allow them to be implemented in practice; they train workers qualified in a specific field; are able to quickly respond to emerging problems and offer appropriate solutions.

Benchmark analysis of clusters in the countries of the world indicates that clusters create a favorable pro-innovation environment. About 40 % of enterprises participating in the implementation of innovations note that functioning in a cluster

structure is to some extent useful. In turn, 8 % of enterprises note that functioning within the cluster had a very large impact on the implementation of innovations. The given information makes it possible to assert that cluster structures have a positive effect on the innovativeness of enterprises, but their potential is still largely unused. Research also emphasizes that the creation of knowledge and innovation occurs more often in large clusters, which create better conditions for innovative activity.

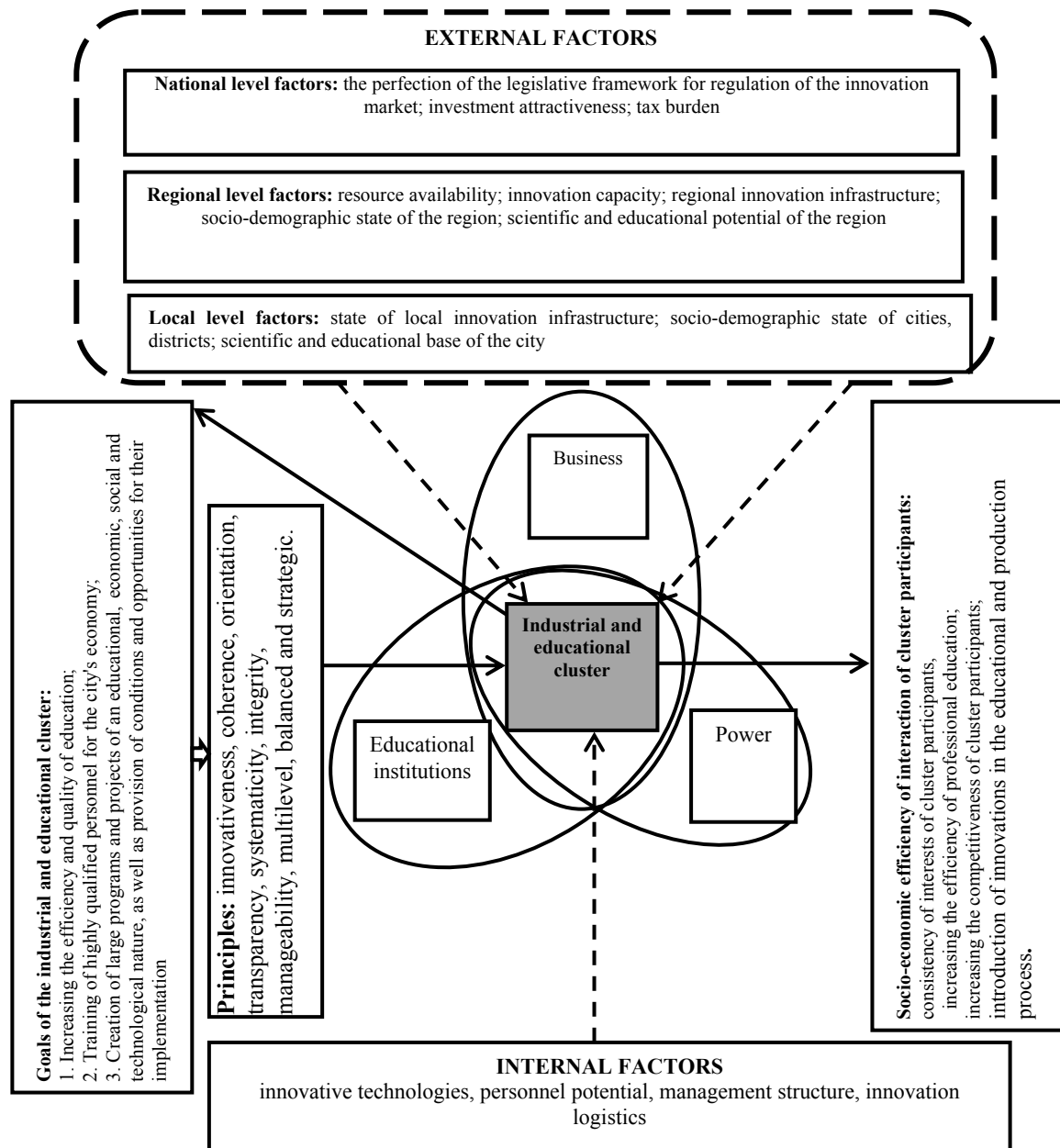


Figure 1. Formation of the socio-economic concept of innovative diffusions taking into account the synergy of the "triple spiral"

Therefore, based on the above, in order to provide the basis for the creation of a socio-economic concept of innovative diffusions as a factor of social

transformations, it is necessary to maintain the attractiveness of the cluster environment. Clusters play an extremely important role in the context of increasing the innovativeness of all socio-economic processes, as they act as a catalyst that ensures the exchange of knowledge between the logistic elements of the innovativeness of the socio-economic system. This organizational form of innovation contributes to the creation and dissemination of knowledge and technologies in its midst, forms its own innovation network, which over time strengthens its competitive position in the economic markets of innovation.

Conclusions. Based on the above, it can be concluded that the socio-economic status of the creation and implementation of innovative diffusions is a mutually coordinated complex system of successive categories in relation to the relevant relations, and the information process, the parameters of which depend on the channels, the perception of the subjects, the nature of the relations of the participants, etc. In some cases, the diffusion of innovations should be considered as the arrival of new products on the market by the innovator and their distribution on the market, with the aim of realizing positive social transformations.

The practical significance of the conducted research is the presented holistic-systemic approach, the main emphasis of which is on the fundamental determinants of the promotion of innovations, the role of education and organizational training, innovative infrastructure, the development of the innovative potential of enterprises, etc. The conducted studies determine the areas that need to be paid attention to within the framework of the analysis of the diffusion of innovations, in order to solve the tasks of its development and increase the efficiency of the participation of enterprises, covering the marketing of innovations.

The conducted studies confirmed that the diffusion of innovations takes place under the influence of the introduction of innovations, which are accompanied by a change in the logistical structure of innovation diffusions, energy and information flows, which leads to a change in the effectiveness of socio-economic activity and the socio-economic concept of innovation diffusions as a factor of social transformations.

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