

Innovation and Investment Potential of the Digital Entrepreneurship Support Mechanism under the Conditions of Institutional and Structural Changes

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Abstract: - The purpose of scientific research is to presentation of the features of investment processes and directions of investment in the conditions of institutional transformation of the national economy as a foundation on which the development of digital entrepreneurship and innovations that change business in the direction of its digitization and virtual mobility are built. The object of scientific research is the process of innovation and investment support for the development of digital entrepreneurship in the conditions of institutional transformation and systemic modernization of business in various sectors of the economy, which can be implemented due to the new quality of functioning of the organizational and economic mechanism of support for entrepreneurship in terms of its digitalization and informatization. Tools contributing to the development of digital entrepreneurship are presented; the author's vision of the content of the work of the organizational and economic mechanism for supporting business processes of enterprises that are at the stage of digital transformation and system modernization is provided. The dependence of the interest rate and the volume of investments in digital entrepreneurship is graphically presented and revealed with arguments. The practical significance of the research results is that the main postulates of the mechanism of practical support of digital entrepreneurship are explained in an argumentative manner. The factors that depend on the quality of support for the digital entrepreneurship of a virtual business are presented. Features of digital initiatives taking place in the economic system are indicated. The value of the presented research is that it is proposed to include the following regulators in the organizational-economic mechanism of support for digital entrepreneurship: fiscal, political-legal, organizational-technological, financial-economic, and institutional. Pursuing the goal of attracting investments into the economy of Ukraine as soon as possible, it is proposed to implement the mechanism of accelerating digitalization and informatization of entrepreneurship within the framework of the work of the 'institutional-structural changes – investment potential – innovative and digital development'. The author's vision of the content of the practical work of the mechanism for supporting digital entrepreneurship is presented and thoroughly disclosed through the use of functions (encouragement, prohibition, support, restriction, inducement, coercion) and tools ('tax holiday', preferences for digital business, tax benefits, subsidies, subventions, investment incentives).

Key-Words: - organizational and economic support mechanism, digital entrepreneurship, investment potential, institutional transformations, innovative development, capital investment, interest rate, industry.

Received: July 18, 2024. Revised: November 29, 2024. Accepted: December 12, 2024. Published: December 23, 2024.

1 Introduction

In the conditions of institutional changes, and financial and demographic crises, socio-economic recovery and development of the national economy are possible under the condition of attracting investments, both foreign and the search for investors in the middle of the country. This can be achieved by pursuing a policy of real support for investors, working out various incentives for them, and introducing tax preferences, so to speak, 'bonuses for risky investment' in the economy of a country that is under martial law. It is important for state institutions to remain transparent and pursue an honest policy in terms of access to funding for promising innovation and investment projects and to encourage the acceleration of the digitization of entrepreneurship and the formation of a digital ecosystem using the latest digital technologies in production and industry, thereby laying the foundation for the formation of Industry 5.0.

Digital transformation acquires a dynamic and all-encompassing character that goes far beyond economic processes and extends to the social sphere, which is also focused on the creation and implementation of advanced digital technologies in order to make people's lives safe, comfortable, convenient, and provided with everything they need. And if the economic effects of digital transformation are represented by the growth of employment and labor productivity, high technological production and business efficiency, the creation of new products/services and their offering on the market, as well as general economic growth, then the social sphere receives the digitization of everyday services of citizens to public institutions, reducing bureaucracy and increasing the speed of receiving administrative services, improving the quality of received educational and medical services, expanding the accessibility and inclusiveness of public services.

In order to obtain the greatest possible economic and social effects from digitalization, the role and interest of the state in supporting digital transformations must be strengthened. This should take place in the context of strengthening innovative activity and investment attractiveness, supporting small and medium-sized businesses, fighting corruption, increasing adaptability to external challenges, acquiring digital skills by citizens and working on their digital literacy, increasing the digital quality of life and well-being of the population, effective use of existing resource potential, formation of its own powerful technical and technological base, implementation of a balanced, consistent, targeted and long-term policy

of structural digital changes.

The value of this study lies in the fact that the authors attempted to demonstrate and substantiate the existence of a direct dependence of the real interest rate on investments in digital entrepreneurship (DE). This article differs from those already published in that it clearly reveals the direct connection between the volume of foreign investments involved and the insurance of entrepreneurship risks. At the same time, the authors managed to present the organizational and economic mechanism that ensures the formation of DE and develop tools for its development. The functions of the mechanism for supporting DE (prohibitions, restrictions, coercion, formation, support, encouragement) through the prism of its regulators are disclosed. The possibilities of their practical application in the conditions of institutional and structural changes are described. The conditionality of the effectiveness of the practical application of the organizational and economic mechanisms with the help of mandatory implementation of institutional reforms in the innovative and digital sphere is argued.

The purpose of the publication is to clarify the innovation and investment potential of Ukraine's industry with the aim of developing a mechanism for supporting DE in conditions of systemic and complex modernization and institutional transformation.

The thesis about the institutionalization and structural modernization of the industrial sector of the national economy in the context of the formation of an organizational and economic mechanism to support the digital development of entrepreneurship is of fundamental importance from the point of view of our research. This allows in practice to establish actualities in the activities of digital enterprises and support the implementation of innovative and digital interests of the business entity.

2 Problem Formulation

2.1 Literature Review

The modern understanding of the processes of formation and development of DE has had a powerful impact on labor of [1], [2], [3], [4]. In the course of their research, scientists analyzed the state of development of DE; indicated the factors slowing down the development of digitalization of business processes; and provided their own recipes for accelerating the development of DE on an innovative basis.

Studies dedicated to the development of

innovative entrepreneurship and its functioning in digital ecosystems deserve scientific attention. For example, the researcher, [5], in her scientific article 'The Role of innovative entrepreneurship in the economic development of EU member countries' and 'The Role of innovation and Creativity in shaping the Future of EU', [6], presented correlation between the GDP/capita and innovation performance of EU member countries, the correlations between the GDP/cap and motivation of becoming entrepreneurs in EU member countries, the correlations between the GDP/cap and TEA innovation level in EU member countries and proved a cause-and-effect relationship between the determinants of innovative development in the countries analyzed by her.

Researchers, [7], in their article 'Entrepreneurship and innovation – process overlap or the same? Systematic overview and converging process-dynamic model' critically reviews prior publications and explores the process approach to entrepreneurial and innovation processes (structuration and equivalence theory, systems and design thinking, and pattern matching theory were implemented to structure and synthesize a converged operationalized dynamic process model).

The names, [8], and [9], are associated with the study of behavioral aspects of investors, the study of their features and characteristics of investor behavior in the context of work in the field of stock trading. In the works of these scientists, based on the application of an interdisciplinary approach, a scientific search for the fraction of market capitalization held by each investor type is carried out, and the conceptual foundations of the stock investment intention are clarified. As a result of the research, the scientists managed to come to the conclusion that the perceived behavioral control of individuals regarding stock investment is influenced by the personality traits of agreeableness, extroversion, conscientiousness, and openness. The researcher, [9], emphasizes in his scientific work that the efficient functioning of capital markets ensures that information on companies' sustainable development endeavors is fully and instantly incorporated into stock prices, which facilitates them in raising capital requirements at a lower cost.

Theoretical and practical studies of investment decision-making through the prism of innovative changes in the economy were highlighted in the works of scientists, [10]. Scientists conducted a thorough review of a number of literary sources on the problems of investing in the economy, and presented a network visualization map of the keywords in individual investors' behavioral

intentions. Issues of study of factors affecting investment decisions and study of risks occurring during investing in stock markets were dealt with by [11], [12].

The names, [13], [14], [15], [16], [17] and [18], are associated with the study of general problems and ways of improving the innovative development of national economies and the conceptual foundations of institutionalization of the digital transformation of the economy and enterprises in the context of the development of Industry 5.0. At the same time, a significant number of questions, such as: What innovative changes are undergoing digital enterprises and business processes on them? What trends can be traced in the digitization of enterprises? Is there a relationship between the interest rate and the amount of investment in DE? In addition, there is a need to study features of the functioning of DE in the conditions of institutional and structural changes, to find out innovative tools for their innovative development, with the aim of developing, on the basis of this knowledge, and proposing for practical implementation a mechanism for supporting the development of DE in conditions of existing challenges and structural transformation of the economy.

An important role during the writing of the article is given to theoretical materials, which are contained in scientific articles of highly cited journals indexed in the Scopus database. Scopus' user-friendly, easy-to-use interface makes it easy to search for scientific publications, and quickly download and cite them, which is important for maintaining methodological accuracy.

Potential weaknesses in the use of scholarly articles from journals indexed in the Scopus database are content bias and author's country of origin. Certain journals indexed in Scopus have restrictions on citing in scientific publications materials that are not published in English or presented in journals that are not included in Scopus or WoS, which narrows the field for scientific research and affects the completeness of the analysis. However, the presence of these aspects doesn't significantly affect the general bibliographic analysis and ensures methodological accuracy, which contributes to a deep analysis of supporting digital businesses.

2.2 Tasks of the Article

The purpose of the publication is to present the features of the innovation and investment potential for the development of DE in the conditions of institutional transformations and global challenges, which has every chance of becoming a decisive step

in the accelerated reconstruction of the economy of Ukraine due to the high-quality work of the organizational and economic mechanism and tools to support the digitization of business processes at the micro level.

Among the tasks set in the article are: to analyze the size of capital investments in industry in terms of individual types of economic activity for 2010–2022; to reveal the key components of the mechanism of innovation and digital support of entrepreneurship in a reasoned manner; present the functions and regulators of this mechanism, which contribute to the digital development of the economy at the micro level; reveal the cause-and-effect relationship of the interest rate and indicate the number of investments in DE; to provide an author's vision of the content of the work of the organizational and economic mechanism for supporting DE; define and reveal the content of some tools for the development of DE; indicate the specifics of investment initiatives taking place in the conditions of institutional and structural changes of the national economy.

2.3 Methodology

On the basis of comparative-retrospective analysis, synthesis, graphic method, and capital investments were investigated in terms of individual types of economic activity, and a graphic interpretation of the dependence of the interest rate on the volume of investments in DE was presented. System analysis was used during the study of the content of the organizational and economic mechanism and tools to support the formation and development of digital entrepreneurship; the functions and regulators that reveal the peculiarities of its operation are specified.

Supporting the development of DE also requires a new approach to business models that will form strong competitive advantages in the market, because 'in markets where the complementarity between big data and network effects is less common, competitive advantages are expected to be relatively less sustainable in the digital economy, and the need for external intervention is less justified', [19]. Under these circumstances, the management capabilities of business representatives are of great importance in digital transformation because it isn't only about 'the introduction of digital equipment but also about the need for enterprises to develop and improve management capabilities and operational efficiency compatible with digital technologies. Enterprises can improve their digital technology management capabilities by choosing leaders who are leaders in the digital arena, developing digitally-minded employees and

creating digital transformation teams', [20].

The development of human resources significantly affects the digital capabilities of the enterprise and its performance, while 'in countries with a low level of the human development index, the impact of digital capabilities on technological capabilities is more significant than in countries with a high level of the human development index ...In countries with economies that are developing, from a low human development index during the outbreak of Covid-19, the use of digital platforms and applications (gig economy) intensified, which allowed companies to improve efficiency, [21]. In addition, researchers from Serbia are convinced that 'success or failure in the era of digitalization depends on how human capital is managed, which is due to the growing interest in human-machine interaction. The fourth industrial revolution requires creative, inventive, and competent workers who are ready to overcome the challenges of the digital world, [22]. Therefore, in this context, it is quite obvious that 'the creative potential of the firm has a positive effect on its performance; digital capabilities of companies have a positive effect on their efficiency; at the product level, the firm's efficiency has a positive effect on the differentiation strategy; at the level of the firm, its efficiency has a positive effect on the differentiation strategy', [23].

The innovation and investment potential of the mechanism for supporting DE is strengthened in the course of the development of the information society, which is 'aimed at using the potential of advanced ICT for economic growth and increasing the level of employment to improve the quality of life of all citizens of the country', [24]. There are differences between countries 'in the amount of investment in ICT and with various systemic solutions that shape the flexibility of the labor market, the spread of technologies, the organization of work and business systems, investments in human capital, or the institutional environment for innovation and entrepreneurship', [25], is a significant source of the digital divide and different digital competitiveness of the countries of the world.

Active discussions in scientific circles cause methodical approaches to the assessment of digital business opportunities. Thus, researchers from Canada and Finland use the MIND framework (management (M), infrastructure (I), network/suppliers (N), development (D)) to assess a company's digital capabilities during digital transformation, believing that it best demonstrates, how the framework can provide valuable information and change attitudes towards the organization's digital transformation efforts, and

also shows how the assessment of digital capabilities can make a significant contribution to an organization that is starting a digital transformation journey, [26].

We agree with the conclusions of representatives of the Chinese and Czech scientific communities, who, deepening the understanding of digital transformation, recommend that companies 'apply digital transformation strategies and use digital technologies such as big data, cloud computing, blockchain, and artificial intelligence', [27].

Thus, we can see that scientific approaches to revealing the essence and features of digital transformations in entrepreneurship and economy are quite diverse in the existing literature, which allows for considering the researched issue from different angles. Likewise, the applied methodological apparatus is diverse, which makes it possible to qualitatively eliminate probable gaps in scientific research and to obtain well-argued and comprehensively substantiated conclusions.

3 Problem Solution

3.1 Investment Attractiveness of Innovative Projects

Currently, Ukrainian government officials are working on a number of tools aimed at supporting the attraction of foreign investors to the business environment of Ukraine, in particular, the emphasis is on 'mitigation' of investment risks. High-ranking officials pursue the goal of 'reserving funds to support innovative investment projects and the development of industrial parks... currently, international investments in Ukraine have increased from \$500 million in 2022 to \$1.2 billion in 2023... 43 global companies have invested in Ukraine, including Bayer (\$65 million), Carlsberg (\$40 million) and CEMARK, which is part of the CRH group of companies (\$30 million)', [28].

But it is worth noting that, along with investment issues, the urgent issue of risk insurance arises, because the risks for business and entrepreneurship in a country on the territory of which there is a war are colossally large. Government officials consider 'green' metallurgy and energy, transport and digitization of logistics, digitalization of the agrarian sector, and agriculture to be innovatively interesting and attractive for investment. Investment opportunities are estimated at \$292 billion, [22].

Statistical data on the part of capital investments for some types of economic activity of industry deserve attention within the framework of our research. In appendix Figure 1 and Figure 2 show capital investment amounts from 2010 to 2023.

From Figure 1 (Appendix), it becomes clear that the largest volume of capital investments in the industry of Ukraine was in 2019 and amounted to 254,196.2 million UAH, which is 128,083.6 million UAH more than in 2022. In 2023, regardless of the state of war in the country, the volume of capital investments compared to 2022 was cut by 1.74 times and amounted to 220,652.2 million UAH. The total volume of capital investments in the Ukrainian industry for 4 years from 2019 to 2020 amounted to 803,769.1 million UAH. The analysis of Figure 2 (Appendix) shows that the most capital investments were directed from 2010 to 2023 to the processing industry, in particular, only from 2019 to 2023, this amount amounted to 454,414.7 million UAH. The least amount of capital investment was directed to water supply, sewerage, and waste management.

Thus, in 2010, the volume of capital investments amounted to 691.5 million UAH, in 2022 this amount, although it increased by 6.5 times, is still too meager to talk about accelerated digitization and innovation of work processes in this type of economic activity from 2010 to 2023, there was a moderate, gradual increase in the volume of capital investments in the extractive industry and the development of quarries and the supply of electricity, gas, steam and air conditioning.

The year 2023, in comparison with the year 2022, was marked by improved indicators in all types of economic activity presented in Figure 2 (Appendix). Thus, the extractive industry and quarry development increased by 38,292.6 million UAH in 2023 compared to 2022, and the processing industry by 29,937.8 million UAH. For example, in 2022, capital investments in the amount of 25,396.4 million UAH came to the mining industry and quarry development, which is 10,135.3 million UAH more than in 2010. Capital investments for the supply of electricity, gas, steam, and air conditioning in 2022 amounted to 35,766 million UAH, which is 3.8 times more than in 2010, but 2.1 times less than in 2019. From the data in Figure 2 (Appendix), it is clear that the processing industry remains the most attractive sector of the industrial economy for capital investment. The extractive industry and the supply of electricity, gas, steam, and air-conditioning were moderately interested in investors.

The analysis of statistical data on the volume of capital investments in the context of certain types of

economic activity of industry for the years 2010–2022 caused us to need a deeper understanding of the dependence of investment volumes on the interest rate, the rate of return, with the aim of developing effective mechanisms for attracting funds to prospective and priority sectors for the economy of Ukraine.

3.2 Justification of the Dependence of the RIR on Investments in DE

Estimating the expected rate of return from an investment infusion into a digital enterprise, first of all, is worth taking into account the initial cost of capital goods, and the likely costs of their operation and maintenance, [30]. When costs rise, the expected rate of return on future investment projects falls, shifting the investment demand curve D_{I1} to the left to D_{I2} (Figure 3).

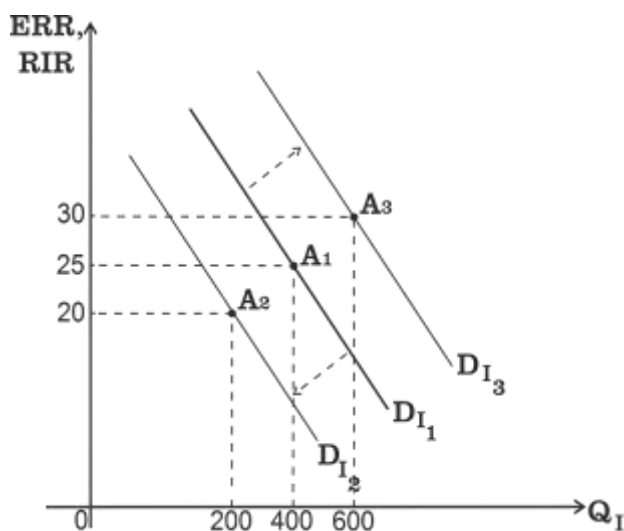


Fig. 3: Graphical interpretation of the dependence of the RIR and the volume of investments in DE

Source: constructed on the basis of source, [30], and own observations.

where,

RIR , ERR – real interest rate, expected rate of return, %;

Q_I – the volume of investments in billions of monetary units;

D_{I1} – the investment demand curve (basic position of the curve, all other things being equal).

An example can be the increase in the cost of 1 kW of electricity in Ukraine from June 1, 2024, which leads to a change in the position of the investment demand curve to the left. The change in the position of point A_1 to the position of point A_2 proves numerically that at the expected rate of profit, the real interest rate of 25%, we have 400 billion monetary units, and at the expected rate of profit, a real interest rate (RIR) of 20%, only 200 billion monetary units.

The situation may be different if there is a

reduction in the cost of electricity, which is needed for equipment and work tools at a digital enterprise. On the graph, this is represented by the movement of the curve D_{I1} to the right uphill to the position of the curve D_{I3} . In Figure 3, point A_3 shows a positive change from point A_1 by 200 billion monetary units and reaching the volume of investments in the amount of 600 billion monetary units.

Technical progress in the development of innovative products, improvement of existing products, provision of digital services, creation of new equipment, and innovative and digital production business processes stimulate the inflow of investments. For example, the creation of new software, a new generation computer, or the development of new equipment, or an updated version of production business processes in every way stimulates the attraction of investments, thereby ‘fueling’ the economy and the development of DE.

Thus, the development of a more efficient machine of a new generation leads to a reduction in the costs of innovative digital production and to the improvement of products in terms of acquiring new quality characteristics. At the same time, we have an increase in the expected profit rate from investments in a new generation machine, [30]. Profitable products created by Industry 5.0, such as VR headsets, artificial reality (AR) glasses, new-generation iPhones and iPads, autonomous drones, and IoT sensors stimulate the flow of new investments. This is caused by the fact that enterprises and corporations are actively buying the latest equipment in order to scale their production. In Figure 3, the investment demand curve D_{I1} shifts its position to D_{I3} precisely as a result of accelerated technological improvement and technical progress.

Throughout the 21st century, the progressive development of innovative leading countries testified how technical progress and technological improvement became the factors that largely determined the volume of investments and their direction by economic sector. Innovative products, digital services, and production processes stimulate investment, [30]. But breakthrough innovations in terms of their degree of novelty and economic significance do not appear so often. We mean innovations that are based on new discoveries (for example, computers); innovations that are created on the basis of a new method (for example, fiberglass); basic innovations contributing to the creation of new markets and industries (for example, electric motor, microelectronics, solar and wind energy); radical innovations that provide

technological ‘breakthroughs’ (for example, drones, scanning microscopes, cellular technologies). But if kind these kinds of innovations appear, they cause large investment costs, create an economic surge, and rise in the economy. But it is worth noting that over time, investment flows stop, as the economy, industry, and production become saturated and there is a need for new discoveries and innovations.

So, for example, the wide distribution of personal computers, mobile phones, and the Internet, provoked large investments in these sectors of the economy and industries and areas related to them. We mean electronic commerce, Internet trade, PC software, [30], and office equipment for PCs. But little by little, investments in these industries are declining. However, AI, the IoT, nanoelectronics, and biotechnologies are becoming interesting for investment among innovative leading countries.

As for Ukraine, the situation here is difficult with investments in high technologies and also digital technologies. This is caused primarily by the state of war in the country, a high level of risk, clear institutional ‘traps’, the ‘drain’ of the intellectual elite from the country, and the lack of adequate opportunities to apply high technologies in promising industries from the point of view of innovation.

Figure 4 (Appendix) shows the size of capital investments in the section on individual types of economic activity of the processing industry for the years 2010–2023. In particular, Figure 4 (Appendix) shows that from 2021 to 2022, the production of computers, electronic, and optical products received very small amounts of capital investment.

Thus, in 2010 they amounted to 227.9 million UAH, and in 2022 they amounted to 607.5 million UAH. Despite the state of war, in 2023 the situation improved and the production of computers, electronic, and optical products amounted to 1,081.2 million UAH, which is 1.77 times more than in 2022. Although there has been growth for 12 years ago, it is very meager to talk about creating a worthy competition for the leading countries in the production of computers. The situation was no better with the production of electrical equipment and the production of machines and equipment not classified into other groups. In 2022, the volume of capital investments amounted to 1,267.7 million UAH and 2,293.2 million UAH, respectively. In 2023, these items increased by 37.8 million UAH and 335.5 million UAH, respectively.

Significant investment infusions in 2019 (31,093.2 million UAH and in 2021 (27,284.6 million UAH) were traced to metallurgical production, and production of finished metal

products, except for machines and equipment. Unfortunately, in 2022 the amount of capital investments in metallurgical production amounted to only 10,147.7 million UAH, which is 2.7 times less than in 2021, or almost identical to the indicators of 2013 (10,875 million UAH). Investors have maintained investment interest in the production of rubber and plastic products and other non-metallic mineral products for all 13 years. The total amount of capital investments from 2019 to 2023 in this production amounted to 48,004.5 million UAH.

If we analyze the current situation, for example, in 2024 LLC ‘Operator GTS of Ukraine’ (OGTSU) intends to invest 812.923 million UAH in the development of the Ukrainian gas transportation system at the expense of depreciation deductions. In particular, it is expected to ‘spend on the implementation and development of information technologies 85,996 thousand UAH, the purchase of diagnostic and examination devices and other devices – 63,200 thousand UAH, the modernization and purchase of vehicles, special machines and mechanisms – 53,017 thousand UAH, the purchase of equipment for production – 48,240 thousand UAH, as well as buildings for production purposes and design and research work – 17,439 thousand UAH. The general 10-year development plan for the GTS of Ukraine provides for a financing amount of 43.756 billion UAH’, [28].

Therefore, it is worth noting that despite the difficult situation in the gas transportation system of Ukraine, which is caused by constant shelling, the partial loss of qualified personnel due to the fulfillment of their constitutional duties, namely the protection of the state, its reconstruction and innovative and digital development are still foreseen. This fact embodies faith and hope for a better economic future for the country because investments show that economic activity based on innovation and digitalization should be expected.

3.3 Organizational and Economic Mechanism and Tools for Supporting the Formation and Development of DE

Pursuing the goal of attracting investments into the economy of Ukraine as soon as possible, we consider it necessary to propose some mechanism for accelerating the digitization and innovation of entrepreneurship within the framework of the work of the ‘institutional-structural changes – investment potential – innovative-digital development’ (Figure 5, Appendix).

The organizational and economic mechanism of support for the formation of DE is a specific

manifestation at the level of economic relations of official institutions for the development of entrepreneurship, that is, it is in a certain way an institutionalized mechanism of innovative and digital support of entrepreneurship. The presented mechanism in Figure 5 (Appendix) includes fiscal, political-legal, organizational-technological, financial-economic, and institutional regulators. Their relationship is a virtual-real mechanism of interaction through the prism of mutual influence and interdependence between business entities and official institutes of innovative and digital development.

Innovative and digital ecosystems develop and function as a result of the influence of certain instruments of a regulatory nature. The organizational and economic mechanism for supporting the development of DE presented by us is an important component of the modern market economy. Thanks to the coordinated work of the regulators and tools of this mechanism, all structural elements of the innovation-digital ecosystem are coordinated and organized in the course of their interaction. The coordinated work of the mechanism was called for the purpose of ensuring the effective functioning of national-type DE.

In an effective state, the regulators of the organizational and economic mechanism of support and development of DE are 'tightly packed', they can be said to be 'matched' to each other. The reason for this is their functional relationship and interaction. This mechanism characterizes modern economic innovative and digital forms of business cooperation methods as a kind of objective-subjective integrity of DE.

An interesting fact that is characteristic of this mechanism is that its participants are business entities, economic development institutions of state, and non-state ownership. Their high-quality and effective coordinated interaction gives every chance for the progressive development of DE. The main goal of the organizational and economic mechanism to support the development of DE is determined by the economic, administrative, and tax regulations available in the country. This goal consists of ensuring the systemic activity of DE and the rational organization of the country's digital ecosystem.

The operation of the organizational and economic mechanism of support for DE depends on the strategic and current plans of the country's digital transformation and innovative development, monetary, and tax policies carried out by the country's government. The operation of the support mechanism for DE and virtual business also depends on qualitative institutional changes, the

investment climate, the level of intellectual development of human resources, available ICT, clustering in terms of promising industries from the standpoint of application and production of high technologies, functioning within the digital ecosystem of 'smart' of production and e-logistics. In the presence of the specified conditions, the organizational and economic mechanism for supporting DE can be characterized by the ability to self-regulate, self-correct, self-improvement, and thus optimization. This can be achieved due to the fact of dynamic changes in parts of digitalization and innovation of business processes in the course of entrepreneurial activity.

The content of the work of the mechanism presented in Figure 5 (Appendix) can also be studied through its tools, which are a continuation of its essence and are methods applied in practice and pursue a single goal – a positive result of the work of a digital enterprise. The analysis of regulators, tools, and functions of the organizational and economic mechanism for supporting the development of DE requires the development of a certain set of levers of influence that determine its structure, methods of work, forms of influence, and methods of functioning.

The organizational and economic mechanism for supporting the development of digital entrepreneurship is based on general provisions of the systemology of scientific knowledge and own observations, which collectively provide a multi-criteria assessment of political-legal, tax, financial-economic, organizational-technical, and institutional regulators. The key characteristics of the digital space of entrepreneurship are its characteristic features of functioning, resource capabilities, and the state of innovation and investment processes. Business activity, sensitivity, and flexibility in processes affect the effectiveness of the organizational and economic mechanisms and determine the innovation and digital, investment capacity of the enterprise and its social motivation and inclusiveness.

The financial, economic, and tax regulators of digital entrepreneurship are aimed at improving the accounting and reporting system of digital businesses by changing taxation and developing a system of benefits for virtual businesses. The political and legal regulator is aimed at strengthening the quality of the judicial system and increasing the responsibility of the executive branch of government. The action of the institutional regulator of digital entrepreneurship consists of changing the existing order of registration of traditional enterprises and working out the rules for

the registration of virtual businesses. The organizational and technical regulator of digital entrepreneurship allows the licensing of innovative digital activities, and the certification of innovative products, and digital services.

The function of limiting the activities of digital entrepreneurship is that in practice this function is implemented through a system of economic indicators and reporting forms. The incentive function consists of encouraging enterprises to conduct official activities, to fulfill their direct obligations to society and the state (paying taxes on time). The functions of coercion and prohibition are related to the termination of illegal activities that can be conducted by digital enterprises and virtual businesses in the Internet space. The functions of encouragement and support consist of the provision by financial institutions of affordable, 'cheap' loans for the opening of digital entrepreneurship and the formation of tax benefits by fiscal institutions for virtual business and e-commerce.

The essence of the organizational and economic mechanism for supporting the formation and development of DE is a complex of social and industrial relations that are regulated by the institutes of innovative and digital development. With their help, the organization and transformation of intra-economic relations take place in terms of their digitization, their coordination with existing laws, rules, regulations, norms, and methods of innovative business activity, correlation with the interests of the country's government.

4 Conclusion

Summarizing, it is worth noting that the positive effectiveness of the organizational and economic mechanism for supporting the formation and development of DE is achieved under the condition of effective interaction of its economic, institutional, organizational, and technological, tax regulators. The harmonious combination in the work of these regulators through the application of functions (encouragement, prohibition, support, restriction, inducement, coercion) and tools ('tax holidays', preferences for digital business, tax benefits, subsidies, subventions, investment incentives) represent an extremely complex digital ecosystem of innovative interaction digital enterprise with the external environment and in the middle of the business structure.

Postulates of the organizational and economic mechanism for supporting DE should be considered:

- DE is a structural element, a powerful institution of the innovative economy in general;
- DE and virtual business use the available resource potential in the country, which calls for regulation;
- The regulation of digitalization and innovation of the economy has an impact on all existing institutions of innovation and digital development in the national economy, in particular on DE and virtual business.

It is worth noting that the regulators of the mechanism presented by us are launched with the help of their functions, namely: encouragement, prohibition, support, restriction, inducement, and coercion in the course of digitization and innovatization of business activities. If the digitization of entrepreneurship takes place both in an evolutionary and a revolutionary way, then the fact that the operating conditions of the internal environment of the enterprise are changing becomes obvious. As a result, the content of the work of the structural elements of the enterprise changes, and the mechanism for supporting DE is adjusted.

Therefore, it can be confidently asserted that the basic structure of the organizational and economic mechanism for supporting the establishment and development of DE includes directions for practical step-by-step influence on the digitization of business processes of a digital enterprise.

At the same time, in future research, scientific attention should be paid to the study of transformational and adaptive approaches to the formation and development of digital entrepreneurship in the conditions of augmented reality and the methodological principles of assessing the effectiveness of the strategy of forming a digital space and virtual business. It is worth strengthening this direction of research into the partial improvements of the component-functional structure of the organizational-economic mechanism of the active development of digital business and developing measures for its institutionalization.

Acknowledgement

This article is published in terms of scientific research work 'Development models of the wartime and postwar economy of Ukraine based on digital entrepreneurship and virtual business mobility' (State registration number 0124U000066).

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

- Kateryna Kraus, determination of the methodological apparatus of research, assessment of the investment attractiveness of innovative projects, justification of the dependence of the RIR on investments in DE, visualization of the presented material, drawing up a list of references, technical design.
- Nataliia Kraus, formulation of the purpose and tasks of research, justification of the organizational and economic mechanism and tools for supporting the formation and development of DE, selection of literature and its analysis, literature review, preparation of a discussion on the research topic.
- Tatiana Zavolichna, collecting analytical data for scientific research, generalization of research results into conclusions.
- Petro Porchuk, writing the introduction to the article.
- Inna Ishchenko, preparation of an abstract of a scientific publication.

Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

Financing at the expense of authors (self-financing)

Conflict of Interest

The authors have no conflicts of interest to declare.

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APPENDIX

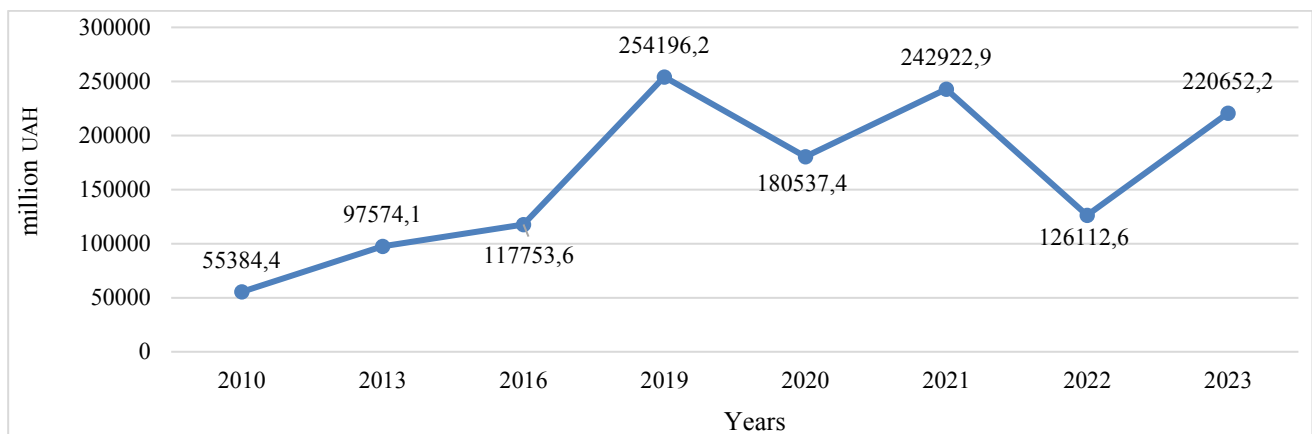


Fig. 1: Capital investments in the industry of Ukraine for 2010–2023, million UAH

Source: compiled based on data from source, [29]

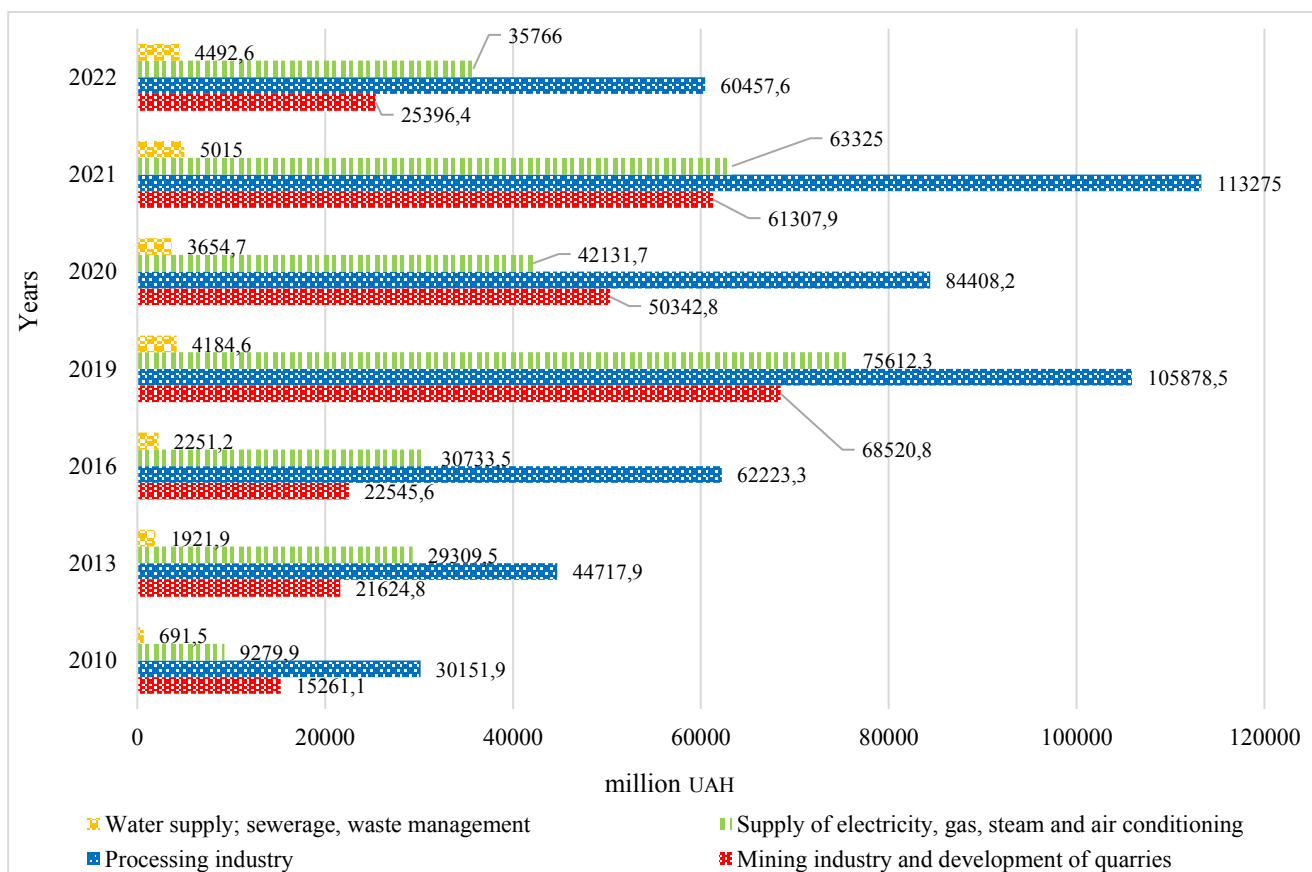


Fig. 2: Capital investments in the section of certain types of economic activity of the industry of Ukraine in 2010–2023

Source: compiled based on data from source, [29]



Fig. 4: Capital investments in the section of individual types of economic activity of the processing industry of Ukraine for the years 2010–2023

Source: compiled based on data from source, [29]

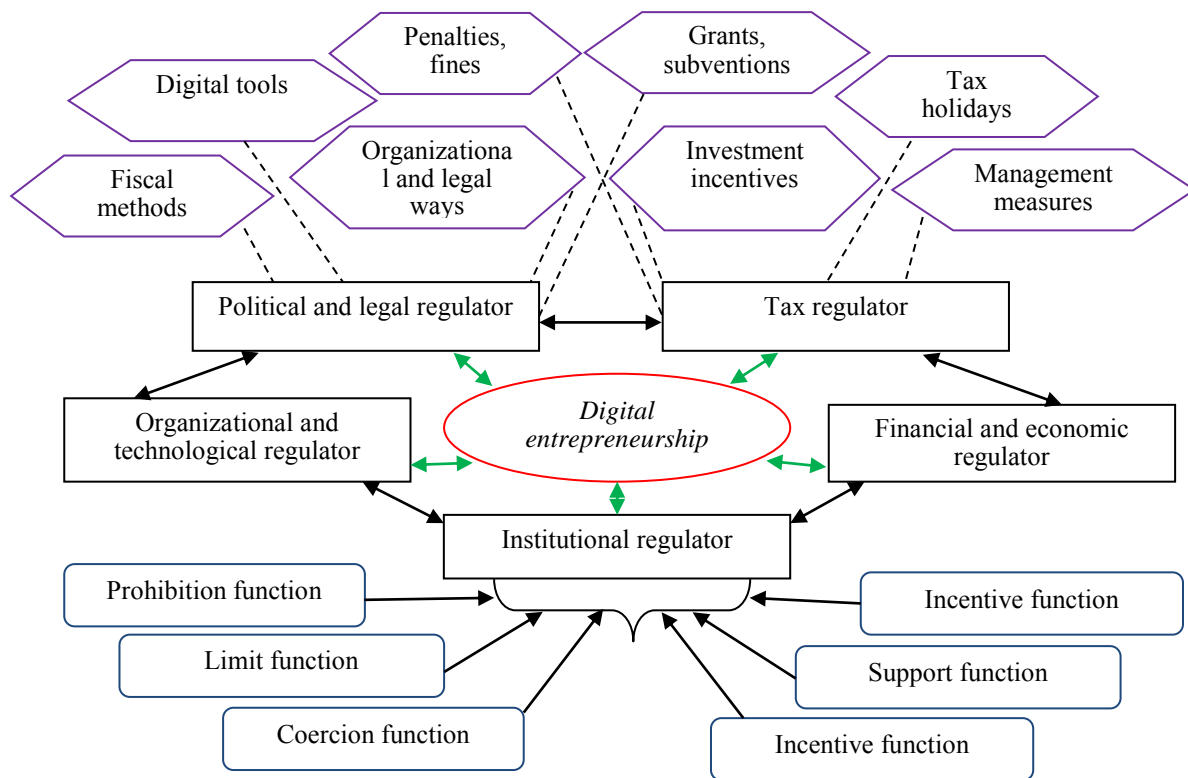


Fig. 5: Organizational and economic mechanism and tools for supporting the formation and development of DE
Source: compiled on the basis of the author's own observations and research