Characteristics of the Problems of Socio-Economic Development in the Conditions of Digital Economy

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Abstract
The main purpose of the study is to determine the main aspects of the problem of socio-economic development in the conditions of the digital economy. The post-industrial era is characterized by the development of the electronic environment and the transition to an information civilization. In this regard, the developed countries of the world pay considerable attention to the development of the digital economy. However, there are a significant number of problems associated with this process. The country cannot be successful in the development of the digital economy in the absence of the necessary legal framework, an economic development strategy based on digital technologies. The research methodology involves the use of several theoretical methods for analyzing and synthesizing information. As a result of the study, the key problems of socio-economic development in the digital economy were characterized.

Keywords:
Socio-Economic Development, economy, digital, digital economy.

1. Introduction

In the context of the third wave of globalization, the digital economy plays an important role in the development of countries, the main factor of which is information and knowledge, as well as ways to access them. The digital economy is not a separate industry, but a virtual environment that complements our reality. Increasingly, the digital economy is intertwined with the traditional economy, making a clear distinction increasingly difficult. The main products of the digital economy are the same goods and services of the traditional economy, provided with the help of computer equipment and digital systems such as the global Internet. This has its advantages, the main of which is increasing the accessibility of ordinary users to certain markets (products or services), and not only large companies, reducing transaction costs, increasing efficiency and competitiveness [1-3].

So, the digital economy is an innovative dynamic economy based on the active introduction of innovations and information and communication technologies in all types of economic activity and spheres of society, which makes it possible to increase the efficiency and competitiveness of individual companies, the economy, and the standard of living of the population. The digital economy is the basis of the Fourth Industrial Revolution and the third wave of globalization. A characteristic feature of the digital economy is its connection with the on-demand economy, which involves not selling goods and services but gaining access to them exactly at the moment when it is required. Orders are received online and completed offline. Advantages of the on-demand economy: high speed of obtaining the necessary service or product; reducing their cost for the end-user due to the reduction in the number of intermediaries; simplification of the output of suppliers of goods and services to users.

It is believed that technological changes have a significant impact on the economic development of the country. According to the World Bank, digital dividends (or the results of digital transformations) are the dynamic growth of the economy, business activities, and, consequently, tax revenues, the influx of new investments, etc. At the same time, the introduction of digital technologies is accompanied by certain challenges that society and the state must overcome in order to successfully implement the digital economy in life: a short-term decrease in labor productivity from the introduction of new technologies; reduction in the number of employees,

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including highly paid and low-skilled workers and the growth of technological unemployment; temporary growth of unevenness in the distribution of income for the period of advanced training of employees to the required level of qualification; significant changes in the regional structure of the distribution of productive forces, the necessary education and qualifications of personnel, and infrastructure; transformation of norms and rules (strengthening the protection of intellectual property rights, improvement of antimonopoly legislation, etc.), lifestyle.

The main purpose of the study is to determine the main aspects of the problem of socio-economic development in the conditions of the digital economy.

2. Methodology

The theoretical and methodological basis of the study is the basic provisions of economic theory, the theory of finance, and the digital economy. The article uses a set of methods of scientific knowledge, which made it possible to realize the conceptual unity of the study. Among them: methods of scientific abstraction, systemic and structural for the justification and development of the conceptual and categorical apparatus; statistical methods of analysis; dialectical method - to generalize foreign experience and modern approaches to socio-economic development in a digital economy; methods of factor analysis and synthesis - in determining the main problems of socio-economic development in the digital economy.

3. Research Results

At present, it is difficult to imagine the functioning of all spheres of life without the help of electronic, computer, network, and other important automated technologies. Starting from communication and purchasing purchases and ending with the production of goods and the independent work of the company - everything is moving into a digital environment, which allows, compared to traditional forms of management, to significantly increase efficiency, quality, and productivity in various types of production during storage, sale, delivery, and consumption of goods and services. Thus, in connection with the understanding of the decisive role of digital technologies in the formation of the strategic economic competitiveness of the country, the modern development of economic relations in society lies in its digital transformation. Digital transformation - and the integral interaction between the physical world and the virtual world of digital technologies, when the virtual part of the world, interacting with the real one, is a productive force and forms a new type of economic relations - the digital economy - this is an economy based on new methods of generating, processing, storing and transmission of information, as well as digital computer technologies. At the same time, the economy, as a process of creating material and spiritual values, receives an additional impetus with digital transformation, supplying new types of goods and services. The essence of the digital economy also lies in the fact that, along with real physical products, with real processes and technologies, there should also be a virtual reality of the same things that have the same properties, the same qualities, work and exist in the same environment in which they exist. real products work. And then, experimenting, creating all sorts of conditions that come to our mind, we can form material reality much more efficiently, much faster, much more economically [4-5].

The success story of the developed countries of the world shows that stable economic development and improvement of people's living standards are possible only if labor productivity increases in various sectors of the economy and the continuous generation of new products and services that can successfully compete in the global market. In the context of the deployment of the "Fourth Industrial Revolution" in the world, the only way to implement the strategy of economic growth is the development of the digital economy with the corresponding transformation of the role and importance of information, communication, and digital technologies in all spheres of the country's public life. Currently, the size of the digital economy is 15.5% of global GDP. Its predominant part falls on the developed countries of the world, the leaders among which are the United States and China. They own 75% of all blockchain-related patents, carry out 50% of the world's spending on the Internet of Things, control more than 75% of the global cloud computing market, and receive 90% of the market capitalization of the 70 largest digital platforms in the world [6]. All this indicates that the achievement of positive economic results within the framework of a modern economy is

by no means guaranteed for other, less developed countries. Moreover, if a country does not invest in the development of the digital economy, its lag behind the most digital countries in the world will grow rapidly, further strengthening the country's place as a raw material appendage of the world. In this context, we consider it appropriate to analyze the state of formation of the digital economy in Ukraine, which, given the huge potential, backed up by the history of creating its own computers, the system for training IT personnel, and a fairly developed infrastructure, can become the basis for the socio-economic development of the country.

The digital economy is not a separate industry, but a virtual environment that complements our reality. You can rephrase this definition more simply: the digital economy is the economy of virtual worlds. In light of Elon Musk's and Stephen Hawking's ominous statements about "living technology", the idea of technological consciousness sounds encouraging, even quite humanistic in places. Increasingly, the digital economy is intertwined with the traditional economy, making a clear distinction increasingly difficult. The main products of the digital economy are the same goods and services of the traditional economy, provided with the help of computer equipment and digital systems such as the global Internet. This has its advantages, the main of which is increasing the accessibility of ordinary users to certain markets (products or services), and not only large companies, reducing transaction costs, increasing efficiency and competitiveness [7].

It should be noted that today, both for the national and global economies, the problem of ensuring the effectiveness of digital technologies and strengthening their positive impact on economic growth and socio-economic development of countries is relevant. In this regard, most scientists and practitioners consider it a priority on a global scale to increase access to the Internet, incl. and price. Today, for every high-speed broadband user in the world, there are five people who do not have such a connection. Globally, almost 4 billion people do not have access to the Internet at all. About 2 billion people do not use mobile phones, and almost half a billion people live in areas without mobile communications [10].

Note that developed countries pay great attention to the development of the digital economy. The European Commission identifies five dimensions of the digital entrepreneurship program: a) digital knowledge and the information technology market; b) digital business environment; c) access to finance for business; d) digital skills of employees and e-leadership; e) creating a supportive entrepreneurial culture.

In the context of globalization, the digital economy is changing approaches to the use of information technologies in doing business, in particular: marketing, sales, service management systems; telephony and messengers; document management and personnel management systems; accounting systems and many other corporate applications. So, modern digital technologies have become innovative trends in the transformation of the socio-economic environment. The digital environment is a digital economy platform with a set of functions and services that meets the needs of consumers and producers, as well as realizing the possibility of direct interaction between them. At the same time, the development of information and communication technologies makes it possible to combine the manufacturer with each end-user. Two polar approaches, planned and market, determine the features of building a digital economy. The market approach assumes that the state creates optimal conditions, first of all, a favorable environment for the functioning of the digital economy, stimulating businesses to move into this new sector. The state also creates optimal conditions of a regulatory, economic, social nature and the availability of a certain technological base [8]. Also, private business, in cooperation with state development institutions, stimulates the further development of the digital economy environment. As for the planned approach, the construction of the digital economy is supposed to be followed by the phased development of infrastructure under the leadership of the state. The technological basis within the framework of the planned approach develops in a more narrowly focused manner. Digital technologies either remain underdeveloped or are imported. An important advantage of the second approach is the speed of construction and the versatility of the created infrastructural basis. In the countries of the European Union, an estimated indicator of the level of technological development and the degree of implementation of innovative technologies in the digital society is used - the DESI Index [9]. This index includes five main sub-indices: communication,

human capital, Internet use, digital integration, and digital public services.

The DESI index for the EU on the development of the digital economy is shown in Fig.1.

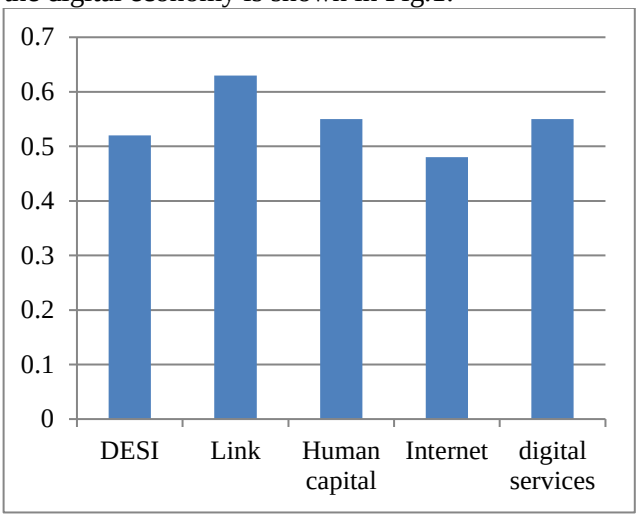

Fig. 1. The DESI index for the EU on the development of the digital economy

Note that for the TOP-10 EU leading countries in the development of the digital economy, the overall DESI index and its components are significantly higher than the average for the EU. In addition, the TOP-10 leading countries included mainly small EU countries. This cluster does not include such countries as Germany, France, Italy, Spain, and others. This once again testifies to the features of the new wave of globalization and the Fourth Industrial Revolution: small and medium-sized enterprises and small countries can be successful and competitive if they actively implement digital technologies and develop a digital economy.

The rating according to the DESI index for individual EU countries is presented in Figure 2.

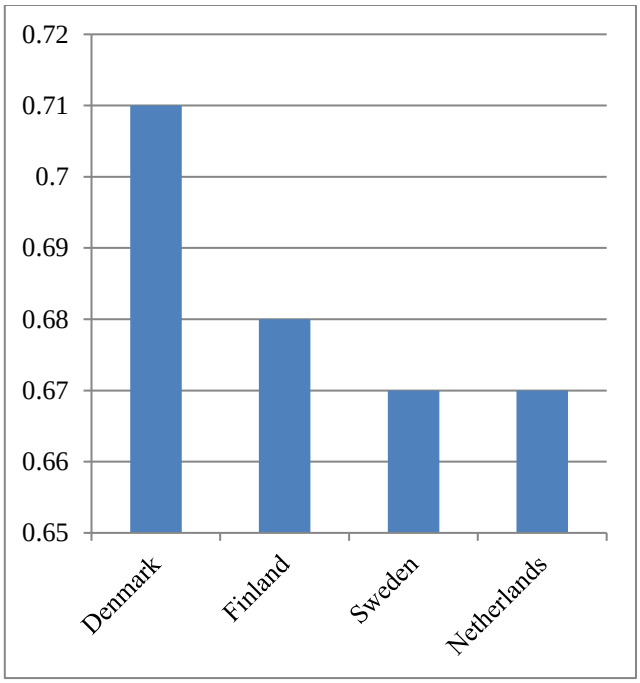

Fig 2. DESI rating of individual EU countries

Note that when determining the DESI index, an important component is the availability of digital skills among the population and graduates of educational institutions, in particular STEM skills (Science (Science), Technology (Technology), Engineering (Engineering), and Mathematics (Mathematics)). In particular, for the UK, this problem is relevant, for which a third of citizens do not have basic digital skills, but are graduates of STEM skills schools [10]. In the digital economy, human capital and information technology play a crucial role in ensuring the sustainable development of the economy. In this regard, the training of highly qualified specialists, taking into account the needs of the market and current trends in the development of digital technologies, the effective implementation of which is accompanied by an acceleration of economic growth, an increase in the number of jobs, and an improvement in the quality of services, is of particular importance. To maximize the potential of digital technologies, we need new specialists with modern knowledge, digital skills capable of self-learning, solving complex problems in a constantly changing environment. It should be noted that all the first positions in terms of the components of the DESI rating are occupied by countries from the TOP-10 leading countries of the EU. In particular, Denmark ranks highest among the EU countries in

terms of Internet use and digital integration; Finland - for the component "Human capital"; Netherlands - "Communication"; Estonia - Digital Public Services. It is clear that Ukraine is not a member of the EU, and the DESI index is not officially determined for it. For Ukraine, the Digital Evolution Index 2017 rating is also not determined . One of the reasons is the lack of relevant information and reporting. Scientists and practitioners have repeatedly raised the issue of improving information support, statistical reporting, taking into account the changes taking place in the information society. The lack of such reporting to date not only makes it impossible to assess the level of digitalization and innovative development but also complicates risk control for these operations and an objective assessment of the possibility of stable development and competitiveness [8-9].

It is the digital economy that is the accelerator of the socio-economic life of society in the modern world and is capable of rapidly increasing the country's GDP. Thus, according to the World Economic Forum, in 2015 the share of the digital economy in the global economy has already exceeded 20% and has been growing rapidly since then. We all know the successful experience of Israel and Estonia. But today the digital economy is a top priority for countries like Germany or the UK. Across the world, the share of the traditional economy is declining, while the digital economy is increasing, bringing powerful benefits to such countries. For example, from the experience of Estonia, Ireland, Sweden, Israel - the direct effect of the integrated development of the digital economy is + 20% of GDP over 5 years and the ROI of digital transformation is up to 500%. In the digital economy, the consumption of digital technologies, regardless of the sphere, comes to the fore. In Ukraine, the most striking example today is the agro-industrial area, where, thanks to digital technologies, advanced agricultural companies increase their ROI from 30% to 90%. But imagine what will happen when we ensure the digital transformation of the entire agricultural sector. The predicted figures are due to the digitalization of the agricultural sector to increase efficiency by 30% and productivity by 20%. To remove barriers to digital transformation in the most promising areas and implement priority initiatives, the State Agency for e-Governance of Ukraine, together with the Ministry of Economic Development and Hi-Tech Office Ukraine, has developed a comprehensive plan for digital transformation in Ukraine. The corresponding draft order is being approved by the central authorities and we expect its adoption as soon as possible.

4. Discussions

The digital economy is the basis of the Fourth Industrial Revolution [11] and the third wave of globalization. A characteristic feature of the digital economy is its connection with the on-demand economy, which involves not selling goods and services but gaining access to them exactly at the moment when it is needed. Orders are received online and executed offline. The advantages of the on-demand economy are: high speed of obtaining the necessary service or product; reducing their cost for the end-user due to the reduction in the number of intermediaries; simplification of the output of suppliers of goods and services to users.

"Digitalization" should provide every citizen with equal opportunities for access to services, information, and knowledge provided based on information and communication technologies. The implementation of this principle is possible with the consolidating efforts of politicians, authorities, businesses, and the public. Removing barriers is a key factor in expanding access to the global information environment and knowledge. In addition, the digital age is changing the approach to doing business, as well as the requirements for the information technologies used: marketing, sales, and service management systems; telephony and instant messengers; document management and personnel management systems; accounting systems and many other corporate applications.

After all, digital technologies are essential for increasing the efficiency of the Ukrainian industry, and in some sectors, they are becoming the basis of product and production strategies. Their transformative power is changing traditional business models, production chains, and driving new products and innovations.

In the context of the development of the digital economy, the problem of providing digital dividends for each citizen is relevant, taking into account the fact that digital technologies are changing business models, the nature of work, and the way services are provided [12-15]. The solution to this problem depends on incentives from the state to respond to the

initiatives of the formation among the citizens of Ukraine of sustainable needs for "digital" technologies through such areas as education, medicine, tourism, transport, e-government, "start-city", etc. After all, the ultimate goal is not just to give citizens the infrastructure of fixed broadband access, but to make sure that citizens have needs for it, especially those aimed at improving life, comfort, education, business, development, etc.

In the digital economy, human capital and information technology play a crucial role in ensuring the sustainable development of the economy. In this regard, the training of highly qualified specialists, taking into account the needs of the market and current trends in the development of digital technologies, the effective implementation of which is accompanied by an acceleration of economic growth, an increase in the number of jobs, and an improvement in the quality of services, is of particular importance. To maximize the potential of digital technologies, we need new specialists with modern knowledge, digital skills, capable of self-learning, solving complex problems in an ever-changing environment.

5. Conclusions

As a result of the study, the key problems of socio-economic development in the digital economy were characterized. Today, the digital economy is an effective basis for the development of public administration, the economy, business, the social sphere, and the whole society. The formation of the digital economy is also a matter of national security and independence, competition of domestic companies, and the country's position on the world stage in the long term. For the successful development of the digital economy, an effective state policy is needed to overcome the "digital divide" and stimulate the development of the digital economy. The key strategy of "digitalization" should be to work with the domestic market, and the key initiatives should be the formation of consumers' (business, state, citizens) motivations and needs for "digital technologies". The Digital Agenda project should be approved at the state level, which provides for the active role of the state in implementing the implementation of the digital economy development strategy, digitalization of all areas of activity, the active implementation of Industry 4.0, and the formation of the necessary professional skills. The country cannot be successful in the development of the digital economy in the absence of the necessary legal framework, an economic development strategy based on digital technologies. But no less important is the formation of professional skills, basic digital literacy, preparation for a professional career, and the promotion of lifelong learning.

Digital technologies should be available both in terms of organizational and technical access to the relevant digital infrastructures, and from a financial and economic point of view, that is, through the creation of conditions and incentives that will encourage businesses to digitalize. The result of such activities will be the modernization of the economy, its recovery and competitiveness.

References

[1] Sotnikova, Y. ., Nazarova, G. ., Nazarov, N. ., & Bilokonenko, H. 2021. Digital technologies in hr management. Management Theory and Studies for Rural Business and Infrastructure Development, 42(4), 527–535. https://doi.org/10.15544/mts.2020.54

[2] Rudakova, S.G., Danilevich, N.S., Schetinina, L.V., Kasyanenko, Y.A. 2020. Digital HR –the Future of Human ResourcesAdministration. Business inform, Vol.1:265-270.

[3] Sotnikova, Yu.V., Stepanova, E.R., & Kasmin, D.S. 2018. The Transformation of Employment Forms in the Context of the Information Society of 21stCentury. Business inform, Vol. 4: 191-197

[4] Levickaitė, R. 2011. Four approaches to the creative economy: general overview. Business, Management and Economics Engineering, 9(1), 81-92. https://doi.org/10.3846/bme.2011.06

[5] Magruk, A. 2016. Uncertainty in the sphere of the Industry 4.0 – potential areas to research. Business, Management and Economics Engineering, 14(2), 275-291. https://doi.org/10.3846/bme.2016.332

[6] Levickaitė, R. 2010. Generations X, Y, Z: How Social Networks Form the Concept of the World Without Borders (The Case of Lithuania), Limes 3(2): 170–183. doi:10.3846/limes.2010.17

[7] Kryshtanovych, M., Petrovskyi, P. ., Khomyshyn, I., Bezena, I. ., & Serdechna, I. 2020. Peculiarities of implementing governance in the system of social security. Business, Management and Economics Engineering, 18(1), 142-156. https://doi.org/10.3846/bme.2020.12177

[8] Halicka, K. 2016. Innovative classification of methods of the future-oriented technology analysis,

Technological and Economic Development of Economy 22(4): 574–597.
[9] Darginavičienė, I., & Suchanova, J. 2020. Linguistic aspects as creativity expression in computer-mediated business communication. Creativity Studies, 13(2), 325-335. https://doi.org/10.3846/cs.2020.12503
[10] Kryshtanovych, M., Oliinyk, N., Skliaruk, T., Voityk, O., & Doronina, I. 2021. Problems of shaping the business environment in countries with economies in transition: aspects of anti-corruption. Management Theory and Studies for Rural Business and Infrastructure Development, 43(2), 316–327. Retrieved from https://ejournals.vdu.lt/index.php/mtsrbid/article/view/2332
[11] Wang, S. L. 2012. The change of studies of intercultural business communication in cyberspace. Academic Exchange, 2, 134–137.
[12] Gwiaździński, E., Kaczorowska-Spychalska, D., & Moreira Pinto, L. 2020. Is it a smart city a creative place?. Creativity Studies, 13(2), 460-476. https://doi.org/10.3846/cs.2020.12190
[13] Algorithm Watch, Bertelsmann Stiftung. 2019. Automating society: taking stock of automated decision-making in the EU. AW AlgorithmWatch gGmbH.
[14] Sylkin, O., Kryshtanovych, M., Bekh, Y., & Riabeka, O. 2020. Methodology of forming model for assessing the level financial security . Management Theory and Studies for Rural Business and Infrastructure Development, 42(3), 391–398. https://doi.org/10.15544/mts.2020.39
[15] Andriyiv, N. Zachepa, A., Petrukha, N. Shevchuk, I., Berest I. 2021. Information Aspects of Changes in the Labor Market of the EU and Ukraine in the Context of Ensuring Safety Through COVID-19. IJCSNS International Journal of Computer Science and Network Security, VOL.21 No.12, December 2021. https://doi.org/10.22937/IJCSNS.2021.21.12.90