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OPPORTUNITIES AND THREATS OF DIGITAL TRANSFORMATION OF THE WORLD ECONOMY

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Abstract

The digital transformation of the world economy is a dynamic and multifaceted process that presents both unprecedented opportunities and significant threats. This study aims to comprehensively analyze the opportunities and threats arising from the digital transformation, providing insights into its transformative potential and challenges to existing economic structures. The primary objective is to examine the impact of digital transformation on the world economy, identifying opportunities for innovation and understanding the associated threats. A combination of literature review, case studies, and data analysis forms the methodological framework of this research. Through the research, it is found that digital transformation opens avenues for innovation across industries, fostering efficiency and creating new business models. The global connectivity facilitated by digital technologies presents opportunities for market expansion, although challenges related to data security, privacy, and regulatory harmonization arise. Additionally, the study highlights the threats posed by automation and artificial intelligence to traditional employment structures, necessitating inclusive policies to address potential job displacement and economic disparities. In conclusion, this research contributes to a comprehensive understanding of the opportunities and threats associated with the digital transformation of the world economy.

1. Introduction

Currently, one of the most important priorities and directions of strategic development of both a single state and the world economy as a whole is the digitalization of the economic space, which is accompanied by corresponding changes in the socio-cultural structure of society due to a change in the paradigm of public consciousness of people, changing their appearance and trajectory of further development (Kasavina, 2019).

The term "digital economy" appeared relatively recently, in 1995, when there were no touch phones yet. Digital technologies have been introduced into the life of society unexpectedly and rapidly, and have opened a new era of digital opportunities. The development of the Internet and mobile phones laid the foundation for digital transformation and influenced all aspects of the development of the economy of individual countries and the whole world, the healthcare system, education, financial system, and the political sphere (Mentsiev et al., 2020; Nazarov et al., 2021).

The era of numbers appeared with the creation of computer technology. The simplest devices for calculations were improved first to logarithmic rulers and arithmometers, and then to computers. The history of the development of computing technology begins in 1945 and is divided into 5 main stages, during which computing technology turned from huge and inconvenient machines into practical tools with many different functions that not only simplified people's lives, but also radically changed it.

2. Problem Statement

The digital transformation of the world economy introduces a complex array of opportunities and challenges that necessitate careful consideration. While the adoption of digital technologies holds the promise of innovation, efficiency, and global connectivity, it simultaneously poses significant threats to traditional economic structures and societal well-being. The problem at hand lies in understanding and addressing the potential disruptions that arise from this transformative process.

The challenge begins with the potential displacement of traditional employment structures due to automation and artificial intelligence, raising concerns about job security and economic inequalities. Additionally, the interconnected nature of the digital world brings forth threats to data security, privacy, and regulatory coherence, challenging the stability of the global economic order. As digital technologies become pervasive, there is a pressing need to grapple with the associated risks, ensuring that the benefits of this transformation are realized without compromising economic stability and societal equity.

This problem statement establishes the imperative for a comprehensive examination of the opportunities and threats embedded in the digital transformation of the world economy, guiding the research towards informed solutions and policy recommendations.

3. Research Questions

1. Opportunities for Innovation:

i. How does the digital transformation of the world economy create opportunities for innovation across various industries, and what are the potential implications for enhancing productivity and economic growth?

2. Global Connectivity and Market Expansion:

ii.   In what ways does the interconnectedness facilitated by digital technologies contribute to global market expansion, and what challenges arise concerning data security, privacy, and regulatory harmonization in the context of a digitally transformed global economy?

3. Threats to Employment and Economic Disparities:

iii.   How do automation and artificial intelligence, central to digital transformation, pose threats to traditional employment structures, and what are the potential impacts on job markets and economic disparities? What inclusive policies can address these challenges?

4. Cybersecurity Risks:

iv.   What are the cybersecurity risks associated with the increasing reliance on digital platforms, and how can robust measures be implemented to safeguard digital infrastructures? What economic consequences might arise from inadequate cybersecurity practices?

These research questions guide the investigation into the multifaceted landscape of digital transformation, addressing both the opportunities that arise from innovation and global connectivity and the threats posed to traditional employment, economic disparities, and cybersecurity in the evolving global economic order.

The most important research questions on which the authors focus their attention are: What are the positive aspects of the digital transformation of the world economy? What are the negative factors associated with the digital transformation of the world economy? How can an integrated approach be implemented to develop a common strategy for the world economy's accelerated development? What are the prospects and problems related to the practical application of scientific progress in the world economy?

4.   Purpose of the Study

The purpose of this study is to conduct a comprehensive analysis of the opportunities and threats arising from the digital transformation of the world economy. With a focus on innovation, global connectivity, and market expansion, the study aims to explore how digital technologies create new prospects for productivity and economic growth. Simultaneously, it seeks to understand the challenges related to data security, privacy, and regulatory harmonization in the interconnected global economy. Furthermore, the research aims to assess the threats posed by automation and artificial intelligence to traditional employment structures, emphasizing the need for inclusive policies to address potential economic disparities. Additionally, the study delves into the cybersecurity risks associated with increased digital reliance and explores measures to safeguard digital infrastructures, evaluating their potential economic consequences. Ultimately, the study aspires to provide informed recommendations for policymakers and stakeholders navigating the complexities of the digitally transformed global economy.

5. Research Methods

Within the framework of this article, the authors used the following methods

i. methods of analysis and induction (some aspects of the digitalization of the economic space were studied, on the basis of which conclusions were formulated),

ii. the method of comparison (the article discusses the digital transformation of the world economy, its positive side, and at the same time the negative factors of relevant innovations are given, which makes it possible to see the ambiguity, "blurring" in determining the main trends of the digital economy).

6. Findings

The research findings offer a nuanced understanding of the opportunities and threats associated with the digital transformation of the world economy:

1. Opportunities for Innovation:

i. The study reveals that digital transformation indeed opens significant opportunities for innovation across various industries. The integration of advanced technologies fosters efficiency, introduces novel business models, and has the potential to drive substantial gains in productivity and economic growth

2. Global Connectivity and Market Expansion:

ii. Findings indicate that the interconnectedness facilitated by digital technologies contributes to global market expansion. However, challenges emerge concerning data security, privacy, and the need for harmonized regulatory frameworks to navigate the complexities of a digitally transformed global economy.

3. Threats to Employment and Economic Disparities:

iii. The research underscores the threats posed by automation and artificial intelligence to traditional employment structures. Job markets face potential disruption, highlighting the importance of implementing inclusive policies to address economic disparities and ensure a fair distribution of benefits.

4. Cybersecurity Risks and Economic Consequences:

iv. The study identifies significant cybersecurity risks associated with the increasing reliance on digital platforms. Insufficient cybersecurity measures pose potential economic consequences, emphasizing the critical need for robust strategies to safeguard digital infrastructures and maintain economic stability.

These findings contribute to a comprehensive understanding of the intricate dynamics between digital transformation, innovation, and potential challenges. They underscore the importance of proactive measures in addressing emerging threats, ensuring a balanced approach that maximizes the benefits while mitigating risks in the evolving global economic landscape.

Digital transformation has penetrated into all regions of the modern world, but each country is at a different level of development, respectively, and digital development in all countries is at different stages. Digitalization forms the competitiveness of any state and increases it, as digital technologies open up new opportunities for society. So, thanks to computer technology, as a result of automation of many processes, accessibility and ease of obtaining any information, the level of education in the country is increasing. A high standard of living and education further stimulate new scientific discoveries as a result of research by students, postgraduates, doctors and other scientists, which, in turn, lead to new discoveries and opportunities in all areas: for example, new nuclear weapons are being created, increasing the country's power in front of the whole world, new missiles are being designed new medicines are being produced that increase the standard of living of the population, the infrastructure of cities is being improved, improving the living conditions of people, new modes of transport are emerging that allow you to fly around the entire earth's surface in a short time and quickly fly from one point of the Earth to another, good conditions are being created for the conservation of endangered species of flora and fauna, new ways of crossing animals and plants are being investigated , etc .

All these processes comprehensively develop the country, increasing the political power of the country, strengthening the country's economy and improving the quality of life of the population (Barefoot et al., 2018).

As already noted, each of the countries is at different stages of development of the digital economy, which is due to several factors. Firstly, it is the availability of broadband Internet connection (Institute for the Economy of Growth, Stolypin, P. A., 2018). Internet access is often expensive in developing countries and does not provide sufficient speed when working with online services. The second important factor is the digital skills of the population and the level of use of Internet services. This factor mainly follows from the previous one, because learning to work with digital services, online stores and multimedia content capabilities is possible only with a stable Internet connection.

When determining the development of the digital economy, close attention is paid to the possibilities of digital public services (Ageev, 2019). The Russian economy has embarked on the path of universal digitalization with some lag, therefore, despite the ongoing work of public and private companies to provide Internet access for most of the Russian population, Russia is significantly inferior to the leaders in other parameters.

It should be noted that the digital sector of the economy of the Russian Federation is developing quite actively. There is a positive trend in the growth of the digital economy sector in the country's GDP in the context of 2015-2019 (Table 1, figure 1).

Table 1. The share of the digital sector in GDP, %

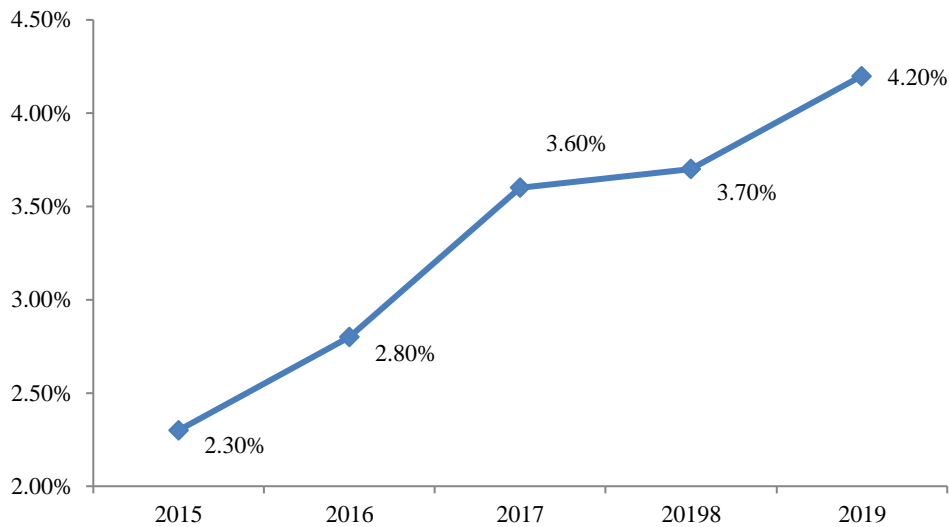| Year	2015	2016	2017	2018	2019
Indicator	2,3	2,8	3,6	3,7	4,2

Figure 1. Dynamics of growth of the digital economy sector in the GDP of the Russian Federation

If we compare this indicator with the economies of other countries, then Russia occupies a fairly stable position in the ranking of digital economies of the world. The leading countries in the digital breakthrough, the size of the digital sector in the total GDP of which averages 6-7%, are Korea (12%), Sweden (8.6%), the USA (7.4%) (International Federation of Robotics, 2021).

In addition, there is an increase in the integration of the population into digital reality. According to the data of the brief statistical collection "Digital Economy: 2020", Russia ranks 12th in terms of Internet use by the population, which accounts for 81% of the total population aged 15-74 years, while in Italy this indicator reaches 74 percentage points. A large number of Internet users in the Republic of Korea (96%), Japan (96%) and the UK (95%) (Troisième Révolution Industrielle, 2016).

The digital transformation of the economy, as an irreversible process, opens up new opportunities for the growth of the global economic potential, which is extremely relevant in the rapidly changing conditions of the market mechanism. The need to change the usual way of doing business is particularly evident today, during the spread of coronavirus infection, which caused a global shock and, perhaps, even one of the factors accelerating the digital transformation of the sectoral structure of the world economy.

Indeed, Covid-19 has caused an increase in the needs associated with the development and implementation in a short time of new models (tools) for managing current processes in line with the transformation of ways of social interaction, cooperation in the field of private business and the public sector, causing certain difficulties due to the introduction of quarantine, lockdowns and other restrictions (Ilyasov, 2018).

Based on the practical application of the results of scientific progress, it becomes possible not only to level the problems of the global economic crisis (coronavirus recession), but also to ensure the accelerated development of world economic activity, including through the use of the potential of the digital economy. Thus, based on the practical application of the results of scientific progress, based on the phased introduction of information, telecommunication technologies, professions of a "new type", automation and robotization of processes, the formation of virtual platforms, the use of customization as an innovative driver in conditions of economic turbulence, as well as in the creation of "smart cities",

accelerated development of the national economy is ensured, its competitiveness is increasing. But at the same time, the transition from the traditional way of the world economy to an innovative way is associated with the presence of a number of negative factors, through which the reverse side of the digital transformation of the world economy is expressed. In this regard, it is necessary to implement an integrated approach in the development of a common strategy for the development of the world economy (Kashepov, 2018).

There is ambiguity, "blurring" in the positions of the definition by Russian and foreign scientists of the positive or negative aspects of the main trends in the field of digital transformation of the world economy.

According to American researchers, the ideologists of the concept of the "Third Industrial Revolution" - D.Rifkin, R. Kurzweil, the introduction of information and telecommunication technologies will have a significant impact on the economic growth of mankind (OECD, HSE ISIEZ). Undoubtedly, the development of new technologies will lead to a reduction in global transaction costs, which will favorably affect the development of global economic ties and relations. However, Y. V. Yakutin defines the importance of the introduction of advanced technologies in his scientific work in a completely different way, considering as a negative consequence "innovations - intelligent sensors", which in the near future will be present everywhere as a tool of mass control over people. Such sensors will register information not only about the place and time of an individual's stay, but also about his physiological state - this is considered by scientists as interference in the personal space of each person (Khasanova et al., 2021).

The author's position is as follows: the introduction of information technologies into the economic environment can become a platform for various hacker attacks. For example, in the international banking system, the negative side of the introduction of digital currency as an additional form of payments are potential threats to users: cybernetic (threats of hacking the system by hackers) and operational (threats of loss of user data due to failures in this system).

Automation and robotization as factors of digitalization of the world economy are considered as methods of ensuring the increase in value added in the most labor-intensive processes of manufacturing enterprises, improving the qualitative and quantitative characteristics of the production process (Avdeeva & Yerizko, 2018). However, mass robotization can and should be considered in the context of the probability of a complete replacement of human labor, as a consequence of the emergence of structural unemployment. Thus, according to the annual report on service robots of the International Federation of Robotics, the number of robots in industrial enterprises around the world is growing steadily at a rapid pace: compared to 2019, in 2020, the global turnover of robotics increased by more than 41% and amounted to about 132,000 units (Yakutin, 2017).

Automation, in turn, can lead to the disappearance of the profession of accountant, translator, librarian, etc., which will cause a shortage of jobs, increased competition in global labor markets. Thus, according to forecasts of leading expert agencies, there will be a decline in the number of jobs in developed countries, countries will lose up to 5 million jobs (Avdeeva & Yerizko, 2018).

The next factor in the digital transformation of the world economy is the widespread introduction of "new type" professions that will minimize the level of global unemployment by creating new jobs. At

the same time, the emergence of "new professions" is fraught with problems of personnel shortage associated with the absence of qualified specialists, whose training will take up to 10 years on average, which requires large financial investments from the states.

A significant impact on the acceleration of the pace of digital transformation of the world economy is the formation of virtual platforms –online platforms for various purchase and sale transactions based on the use of mobile application technologies that stimulate international trade by reducing the cost to customers, the use of social networks as an effective tool for a flexible advertising strategy, which, according to experts in the field of digital economy The World Bank, act as a new paradigm of sustainable interaction of national economies in world economic relations. However, here, along with the positive side, there is also a negative side, mainly related to the fact that digital platforms can lead to a market failure of national economies, in conditions of their absorption by major players of countries developed in the field of digitalization, as well as the inability to compete with them – the author's position.

The process of digital transformation of the world economy is being implemented taking into account the gradual creation and further development of smart cities projects that will allow for modernization (improvement) the structure of spatial and territorial organization, which is extremely important in the conditions of the observed positive dynamics of the growth of the Earth's population, amounting to about 75 million people -1.1% - per year. The main problem of the implementation of this program can be attributed to ensuring the security of the management of such cities, since no one excludes unauthorized actions into the system of urban infrastructure by hackers, for example, hacking traffic control sensors (traffic lights) or hacking the software management of the innovative program "driverless movement" (Bachilo, 2018).

7. Conclusion

In conclusion, this study provides a comprehensive examination of the opportunities and threats arising from the digital transformation of the world economy. The findings underscore the transformative potential of digital technologies, emphasizing opportunities for innovation, enhanced productivity, and global market expansion. However, it also reveals the pressing challenges associated with this transformation.

The threats posed by automation and artificial intelligence to traditional employment structures highlight the need for proactive policymaking to address potential job displacement and economic disparities. The study emphasizes the importance of inclusive policies that ensure the benefits of digital transformation are equitably distributed across societies.

Furthermore, the identified cybersecurity risks associated with increased digital reliance call for urgent attention and robust measures to safeguard digital infrastructures. The potential economic consequences of inadequate cybersecurity practices underscore the importance of prioritizing cybersecurity in the digital transformation agenda.

Informed by these findings, the study concludes with a call for collaborative efforts among policymakers, businesses, and stakeholders to navigate the complexities of the digitally transformed global economy. Proactive measures, inclusive policies, and robust cybersecurity strategies are essential

to maximizing the benefits of digitalization while mitigating associated risks. This research contributes valuable insights for decision-makers, providing a roadmap for a balanced and resilient approach to the evolving global economic landscape shaped by digital transformation.

A separate place in the digital environment belongs to artificial intelligence, the creation of which will change the course of human history once and for all. Modern scientists and manufacturers focus on the creation of artificial intelligence, since it will completely eliminate the "human factor", increase the working day, eliminate breaks and thus increase productivity both in qualitative and quantitative terms (Brookings Institution, 2022). So, artificial intelligence is a technology that transforms all spheres of life. It is a universal tool that allows people to rethink how they integrate information, analyze data and use the information obtained to improve the decision-making process (Ilyasova et al., 2020).

Artificial intelligence algorithms are designed to make decisions, often using real-time data. They are not like passive machines that are only capable of mechanical or predetermined reactions. Using sensors, digital data or remote input data, they combine information from many different sources, instantly analyze the material and act on the conclusions derived from this data. Thanks to significant improvements in storage systems, processing speed and analytical methods, they are capable of enormous complexity of analysis and decision-making.

Artificial intelligence is not a futuristic vision, but rather something that exists today and is integrated with and embedded in various sectors. This includes areas such as finance, national security, healthcare, criminal justice, transportation, and smart cities. There are many examples where artificial intelligence already has an impact on the world and significantly expands human capabilities (United Nations, 2019).

One of the reasons for the growing role of artificial intelligence is the huge opportunities for economic development that it provides. Thus, artificial intelligence will increase gross income tenfold, since artificial intelligence does not need rest, traditional nutrition and sleep.

However, with such a variety of advantages, the introduction of artificial intelligence can have a detrimental effect on the human race.

Firstly, artificial intelligence can appropriate decision-making functions and violate many human rights: the right to freedom of speech, privacy, etc.

Secondly, robots can take all jobs, replacing human labor. In the future, artificial intelligence can replace sellers, cashiers, bank employees, machinists and even programmers and service personnel. So, in 2017, a robotic coffee shop was launched, which provides all the services provided by ordinary baristas. In Russia, in 2022, a more advanced cybercafe was opened with a sales robot whose appearance fully corresponds to the human appearance. In addition, the robot has emotional intelligence, can express certain emotions and reflect facial expressions.

Thirdly, the replacement of labor will lead to the total development of unemployment. This phenomenon inevitably leads to a decrease in the quality of life of the population, since the unemployed population does not receive income other than state payments. Fourth, social benefits for unemployed citizens with a high unemployment rate will be an additional burden for the state.

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