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DIGITAL SOCIETY AND THE INFORMATION AGE: challenges and threats for man, business and the state

Key words: digital society, digital economy, information age, digital transformation, financial market, fintech, national and global security, challenges and threats, coronavirus

ABSTRACT: The scientific article covers the problem of the digital transformation impact on the state, individuals, business and society in Russia and the world. An overview of the concept of «digital economy» by leading world experts is given. The authors concluded that, despite all the positive aspects of the transition to the digital economy, the market faces many risks. All of this affects national and global security.

INTRODUCTION

Modern realities of international relations give rise to new challenges and threats to the national economy.

Thus, digital transformation is rapidly becoming a reality today. More than half of the world's population uses the Internet. The digitalization of production and socio-economic spheres of society is becoming the most important criterion for the inclusion of countries, business and people in the global agenda and life in general. This became particularly evident

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during the coronavirus and self-isolation period. In the world, there are serious socio-economic conditions and the need for the digital transformation of business and industry in cooperation with the state.

The digital world has become a reality today – more than half of the world's population uses the Internet. In Russia, 81% of the population has access to the global network. According to official statistics, the Russian Federation ranks seventh in the world in terms of human engagement in the digital economy and fifth in the number of smartphone users. Communication and shopping, financial management, and education have become a digital reality that has entered the daily life of individuals and society. Digitalization is becoming the most important criterion for the inclusion of countries, businesses, and people in the global agenda and life in general. This became especially noticeable during the coronavirus crisis and self-isolation.

The fourth technological revolution, with which digital technologies are associated, is changing the social order. Digital transformation affects the state, business and daily life of every person – we are all faced with this. There are new ways of living life, new ways of acting. Technology, by dramatically changing the material and social context of our lives, leads to a change in our behavioural norms and ideas about ethical and unethical behaviour in specific situations.

According to the Presidential Decree No. 474 On the national development goals of the Russian Federation for the period up to 2030, one of the goals is «digital transformation».

The current program "Digital Economy of the Russian Federation", which determines the development of the economic sphere in the country until 2030, contains the wording that "digital data is a key factor of production in all areas of socio-economic activity, which increases the country's competitiveness, the quality of life of citizens, ensures economic growth and national sovereignty".

Among the priority areas for the development of domestic science, the state has identified the creation and development of digital technologies, systems capable of processing large amounts of data, which will make a significant contribution to accelerating economic growth and ensuring the country's security. Such areas of development have led to the emer-

gence in society of the problem of human interaction with digital technologies, leading both to a change in the model of financing the economy and to the emergence of "cifrogenic" * threats and challenges to society, the economy and people. Society is faced with the dual nature of digital technologies, which is manifested in the fact that they are not only the basis for the development of innovative processes, accelerated and sustainable development but also a source of risks for society, economy and people.

This increases the urgency of solving the problem of human interaction with digital technologies. On the one hand, the functionality of digital technologies creates a new platform for human activities (including new types of investment assets that have arisen as a result of blockchain technology, the availability of financial products and services and their personification due to the processing and analysis of big data, etc.). On the other hand, the movement of activities into a virtual space, a change in the format of interaction (from traditional Business-to-Customer to Peer-to-Peer interaction and even Digital Profile-Digital Profile), and the digital transformation of the socio-political sphere itself have a wide circle of consequences.

Scientifically based solutions are needed to identify "digital" risks and threats, to identify the directions of their influence on the global process of digital transformation and human participation in it; social and ethical problems of digitalization, as well as the genesis of human interaction with digital financial technologies and its impact on national financial security. And on this basis, predicting future transformations and developing preventive solutions.

These circumstances determine the relevance of this study and indicate the need for digital transformation in Russia in the current socio-economic conditions. Especially sharply question the need for human interaction studies and digital technologies emerged during a pandemic coronavirus and isolation, since 2020.

However, the widespread use of digital resources, tools and technologies brings not only positive trends and impact on sustainable development. This process is associated with the emergence of risks and threats for business, society and the state.

The applied significance of the results will be expressed in the possibility of dissemination within the state. This will improve the effectiveness of the response of Russian society at Big Challenges using the interaction between man and technology at the current stage of global development.

"Cifrogenic"* – hat is derived from causes related to digital technology.

LITERATURE REVIEW

Analysis of the current state of research on the digital transformation of financial technologies and its impact on the state, individuals and society made it possible to highlight the key areas of scientific research. First of all, this is the study of digital financial technologies as a separate industry (Fintech), which applies technologies to improve financial activities and create innovations in the field of financial services.

A review of the literature on the selected topic has shown that relations arising in the course of human-digital interaction in the financial sphere are discussed in many papers of such scholars as Tapscott D. (1996), Carlsson, Bo (2004), Reshetnikova et al. (2019), Reshetnikova et al. (2021a, 2021b) and others.

Don Tapscott, (1996) in his work "The Digital Economy" focuses on three main areas: "the new economy and the factors that shape it; interconnection and its relationship to business and government and, finally, the need for strong progressive leadership that will be responsible for transformation or will be the agents of change in this new era".

In turn, Carlsson, Bo (2004) in his work concludes "that the new or digital economy is dynamics, not static efficiency".

These and other studies prove the ongoing transformation of the financial market under the influence of digitalization. The work of the authors (Eskindarov M.A. et al., 2018) reveals how the active digitalization of the life of modern society has led to real changes in the economy. Along with fintech, which has become the vanguard of the digital transformation of the financial sector, cryptocurrency and token have become its most well-known objects. Cryptocurrencies, on the one hand, open up opportunities for the growth of the national budget: the development of innovative

technologies and the creation of new jobs, on the other hand, carry great risks. In addition, the authors of the article pay special attention to such important elements of fintech as RegTech (Regulatory Technology) and SupTech (Supervision Technology).

In their work, the authors (Goldstein, Itay, Wei Jiang, and G. Andrew Karolyi, 2019) describe the recent FinTech phenomenon (namely Big Data technologies and data analysis; mobile and cloud technologies, distributed ledgers (blockchain), robotization).

In his work (Puschmann, Thomas, 2017), he concludes that the ongoing digitization process not only leads to the increasing automation of processes but also a fundamental reorganization of the financial services value chain using new business models (for example, robot consultants) and new players entering the market (e.g. Apple). The main directions of the development of the concept of «financial technologies» are reflected, including special attention is paid to the use of big data analysis, for example, in the case of the analysis of industrial enterprises.

Leveraging Mobile Cloud Computing (MCC), which enables mobile users to benefit from cloud computing in an environmentally friendly manner, is an effective strategy to meet current industry needs. However, the limitations of wireless bandwidth and device capacity pose various barriers such as additional power wastage and latency in the deployment of the MCC. The authors (Gai, K., Qiu, M., Zhao, H., Tao, L., Zong, Z., 2016) in their work propose a dynamic mobile cloud computing model (DECM), focused on solving the problem of additional power consumption during wireless communication time using a dynamic cloud computing (DCL) model.

Moreover, the work of the authors concerned the development of multiple restrictions for data access. The authors (Kanak, Alper, and Ibrahim Sogukpinar, 2014) proposed an approach to solving the problem of strengthening biometric authentication systems by considering three-dimensional constraints when creating a security strategy that included security, privacy and trust. The researchers formulated the trade-offs of these three aspects in the following order: to improve the effectiveness of protection when applying biometric technologies. However, this approach is limited in many application scenarios because the three dimensions of

the criterion, including security, privacy, and trust, are in practice fuzzy. On the other hand, the authors (Davis, M., Kumiega, A., Van, V., 2013) in their work concluded that adjusting the protection mechanism is also a difficult task, since the formation of an implementation strategy takes a long time, and frequent changes in biometric authentication mechanism do not apply to the requirements of most financial services.

In their work, the authors (Merton, Robert C., and Richard T. Thakor, 2019) answer the question of how we should change the existing theories of financial intermediation to take into account the interests of banks, and solutions not related to intermediation. They conclude that this may also have implications for blurring the boundaries between banks and financial markets.

In their work, the authors (Gai, Keke, Meikang Qiu, and Xiaotong Sun, 2018) summarize and discuss five technical aspects of FinTech, which include security and privacy, data processing methods, hardware and infrastructure, applications and management, and service models. The main conclusions of this work are the foundations for the formation of active fintech solutions.

The authors' book (Attaran, Mohsen, and Angappa Gunasekaran, 2019) discusses the various ways blockchain technology is changing the future of money, transactions, government, and business. The application of blockchain in various industries is considered and new interesting business applications used by technology developers (Google, Google Trends, Intel, Microsoft, etc.) are highlighted.

Shows why most companies are implementing blockchain and present examples of companies that have successfully applied this technology to improve efficiency and reduce costs; highlights the powerful potential of blockchain for the development of emerging markets and economies, including smart cities, value-based healthcare, decentralized sharing economy, machine-to-machine transactions, data exchange marketplace, etc. Provides a conceptual model, providing information and ideas, and describes a step-by-step blockchain-based technology planning and development approach.

In his article, the author (Daniel E. O'Leary, 2017) explores alternative configurations of various blockchain architectures used to collect and

process transactions (accounting, auditing, supply chain and other types of transaction information). The focus is on cloud and proprietary versions of blockchain configuration, exploring usage configurations, benefits, and limitations as firms introduce blockchain-based market mechanisms into their organizations.

The analysis of the current state of research on the rapid development of digital financial technologies allows us to conclude the originality of the problem statement and the relevance of the chosen method of scientific knowledge in the light of modern challenges and threats to global and national financial security.

DISCUSSION

The 2020 pandemic accelerated the pace of development of the digital economy, which had an impact not only on the economies of states, business but also on almost every person. Many countries/enterprises were not ready for an abrupt transition, which was associated with additional investments and the introduction of crisis plans.

For example, at the moment in the Russian Federation, there is a program «Digital Economy of the Russian Federation», which determines the development of the economic sphere in the country until 2030. According to which, "digital data is a key factor of production in all spheres of socio-economic activity, which increases the country's competitiveness, the quality of life of citizens, ensures economic growth and national sovereignty".

At the same time, the Czech Republic improved its performance and was ranked 17th in the Digital Economy and Society Index 2020 (DESI). The country improved its performance in three dimensions: human capital, digital integration and use of Internet services. Judging by the data before the pandemic, the strongest aspect of the Czech Republic is the integration of digital technologies, where the country scores above the EU average.

What will the consequences of the pandemic bring? Does this mean a sharper market shift from offline to online than expected ahead of 2020?

Keeping the business, both large companies and small business owners, transfer it to e-commerce terms.

With technological development, a person has mobile thinking. In the part of small and medium-sized businesses, financial transactions have accelerated, we are seeing a more mobile market, a rapidly changing range of goods. Nowadays, it is easier to conclude sales and purchase transactions. Bureaucratic registration, tax reporting, approval of transactions have become more accessible. The «Electronic Government» option allows you to regulate many issues of citizens. The online service sector facilitates the process of inquiries and processing, both for citizens and employees of enterprises.

Technological progress, which is largely facilitated by the availability and development of the Internet network, will make changes both in the economic and technological situation in the world and will have an impact on the cultural and social aspects of human life.

The declining cost and availability of the Internet are driving an increase in the number of users around the world. The development of the 5G network leads to faster and better connections. Smart home control, online training, real-time video conferencing and much more are becoming a reality today.

Despite all the positive aspects of the transition to the digital economy, the market faces many risks: social, legal, security risks (including cybersecurity), and the risk of a negative impact on the labour market and on human intellectual development.

To respect the rights and freedoms of a person and a citizen, to ensure his personal, financial and economic security, special instructions are required because of all the risks, factors and negative consequences. This is especially important when replacing part of human labour and activities with the introduction of robotics components and technologies of virtual and augmented reality.

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