

Digitalization of Economy and Socio-Economic Development of Russia: Points of Connection

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Abstract—The article analyzes the readiness of the Russian economy for digital transformation. It also highlights the necessary measures to transfer the country to a digital economy model. The possibilities of digital technologies are shown, initiating fundamental changes in all spheres of the economy and society; at the same time, the need to consider the associated risks and threats is recognized. An assessment is made of the readiness of the Russian economy for digital transformation based on the World Bank data: the minimum values are demonstrated by the institutional environment and the legislative framework, the state of state policy and strategic planning, the social and economic effects obtained, the level of digitalization of the population, business and the public sector; the state of digital infrastructure, digital platforms and digital technologies, the level of confidence in the security of the digital environment and the value of human capital were assessed as much as possible. It is emphasized that an increase in readiness for digital transformation is possible with targeted and consolidated interaction of representatives of all levels of the economic system. Based on the assessment of the readiness of the Russian economy for the transition to the digital development highway and on the need for all stakeholders to participate in this process, the authors outlined a set of measures supported by statistical data at the national, regional, municipal and sectoral levels aimed at eliminating barriers to the digital transformation of the economy, management and society as a whole. The main actors in the creation and development of the digital transformation ecosystem are considered by the authors to be government, business, and the scientific and educational community. The importance of the development and impeccable implementation of a balanced state policy in the field of digitalization of key sectors of the economy and all spheres of society is emphasized in order to achieve the set goals in the field of innovative and technological breakthrough and receive significant socio-economic dividends.

Keywords—digital economy, digital transformation, socio-economic development, innovation

I. INTRODUCTION

According to the adopted strategic documents in the field of digital transformation, key sectors of the Russian economy should reach the stage of digital maturity by 2030. By the same time, it is expected that 95% of all socially significant services will be provided online, and 97% of households in the country should be provided with broadband internet access. At the same time, a number of objective factors, one of which is the COVID-19 pandemic, require a change in the timing of the implementation of a number of backbone projects provided for by the national program “Digital Economy”, such as: the creation and development of 5G / IMT-2020 networks, the creation of a state unified cloud platform, a typical automated workstation of a civil servant, a venture fund to support promising educational technologies of the digital economy, etc. As of May 2020, only 6 results have been fully achieved, 150 have current deviations from the planned completion dates, 66 (30% of the total) were recognized as unfulfilled out of 231 planned results of the national program “Digital Economy”. So, according to the federal project “Digital public administration” out of 74 measures, 20 were not completed, in the direction of “Information security” – 13, “Information infrastructure” – 11, “Personnel for the digital economy” – 10, “Regulatory regulation” – 9 [1] were also not completed. Recognizing the negative effect of these results on the rate of formation of the digital economy, the President of the country demanded more decisive actions towards achieving the global competitiveness of the Russian economy.

II. PROBLEM STATEMENT

In the current environment, immediate measures are required to level the current economic situation and translate it into a positive state based on a revision of priorities and approaches to digital transformation – this should lead to

expanding the horizons of socio-economic development, solving the problem of increasing labor productivity, growing the national economy and creating its new structure.

Consequently, measures are needed at all levels of the economic system to target digital development, which, in addition to economic dividends, will bring the expected results in all spheres of life: politics and management, education and science, health care, housing and communal services and urban economy, obtaining public services, culture and leisure and etc. Considering the instability of the environment and the rapid changes in digital technologies, it is necessary to regularly – perhaps annually – assess the degree of digital transformation of the economy and society and set new benchmarks.

III. RESEARCH QUESTIONS

The search for answers to a series of questions is of scientific interest to study the readiness of the Russian economy for digital transformation including the following:

3.1 What positive results can be expected from the digitalization of the economy and society?

3.2 By what parameters and what tools should be used to assess the readiness of the economy for digital transformation?

3.3 What measures should be taken to bring the economy and society as a whole on the path of digital transformation?

IV. PURPOSE OF THE STUDY

The purpose of the study is to analyze the readiness of the Russian economy for digital transformation, as well as to disclose the necessary measures to transfer the country to a digital economy model. It is necessary to solve the following tasks to achieve this goal: 1) determine economic dividends and positive socio-economic results from the digital transformation of the economy and society as a whole; 2) determine the readiness of the Russian economy for digital transformation; 3) determine a set of measures for targeting the digital development of the economy and society.

V. RESEARCH METHODS

The study was carried out using general scientific methods of cognition: inductive-deductive methods, methods of abstraction and formalization, methods of data visualization, statistical analysis. The statistical analysis is based on data from the World Bank, the Analytical Center for the Government of Russia, experts from the Higher School of Economics, analysts from international consulting companies KPMG, Deloitte and the HARVEY NASH recruitment agency. The author's interpretation of the results of scientific research by Russian and foreign scientists provided a depth of analysis of the scientific problem.

VI. FINDINGS

Digital transformations should be considered both as a fait accompli and as opening wide horizons of new opportunities for the economy and the whole society. Digital technologies initiate fundamental changes in business models, cause changes in various spheres of life – work, study, leisure, – require new thinking and innovative approaches in planning

and decision-making, transfer state and social development into a new format, etc. [2]. The main areas in which significant results of the digitalization of the economy are expected are the following: strengthening the competitiveness of the Russian economy, increasing labor productivity, developing individual entrepreneurial initiative, promoting small and medium-sized businesses, supporting employment, international cooperation and creating a highly productive export-oriented sector of the economy [3].

At the same time, one should not forget about the existing risks and threats that the digital economy brings along with the benefits. For example, in addition to ethical problems, “electronic” products, scaling of network technologies lead to a radical reduction in the cost of ownership by the consumer of a traditional set of goods and services and a decrease in producer costs for their provision. The consequence of this for the population will be the achievement of a higher level of quality of life and an increase in the consumption of goods, at the same time, for the economy, there may be a slowdown in GDP growth due to a decrease in the volume of added value created. The same serious changes are expected in the labor market – its polarization is taking place: along with an increase in the number of jobs filled with intellectual, high-tech operations, on the one hand, and with low requirements for the level of qualifications, on the other, there is a reduction in jobs with requirements for the average skill level due to labor automation [4].

A constant search for new ways of managing socio-economic development, adequate to the state of the country's readiness for digital transformation is required to minimize risks or completely prevent it. So, according to the World Bank, the average scores for assessing Russia's readiness for digital transformation as of 2017, when ambitious goals and objectives of scientific and technological development were proclaimed in the country, made 3.3 points (Fig. 1).

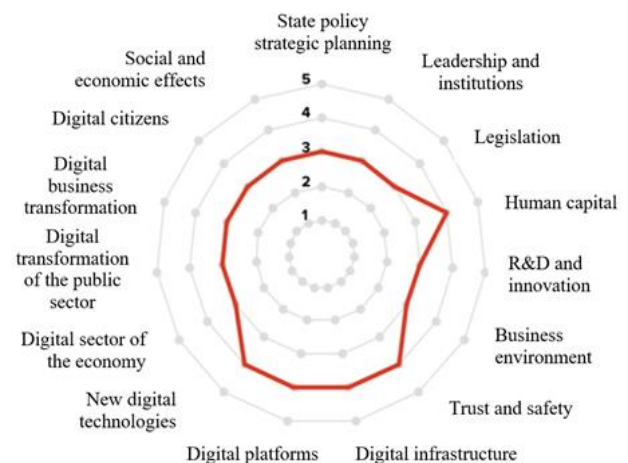


Fig. 1. Assessment of Russia's readiness for the digital economy

It is possible to change this situation radically – to achieve the success of digital transformation – with the implementation of an appropriate set of measures at all levels of the economic system – national, regional, municipal, sectoral.

First of all, the authorities need to pursue policies to strengthen the institutional framework of the digital economy;

to ensure flexible adaptation of legislation to the conditions of high-speed development of the digital economy; improve the digital ecosystem by empowering it to drive digital transformation and innovation in order to prepare for dramatic digital changes and open up opportunities for digital creation [5]. Increasing the efficiency of national project management should be considered an equally important area: in accordance with the national development goals of the Russian Federation until 2030, it is necessary to prioritize national projects, develop detailed road maps for their implementation in accordance with key strategic goals and objectives, and ensure tight control their implementation and the public nature of reporting [6]. New governance mechanisms are urgently required to involve key stakeholders in digital development decision-making, and to secure budgets and funding instruments [7].

A large role in accelerating the pace of digital transformation rests with the management of companies, which has all the administrative resources necessary to accelerate the widespread adoption of innovation and digital technologies in core business processes, as well as to counter staff resistance based on a strong belief in the direct impact of digitalization on reduction jobs, and increasing its digital maturity, including based on the best practices for applying digital technologies in work processes. Thus, according to research conducted by Harvey Nash and KPMG [in Russian], 2019 became a record year in terms of investment in new technologies (Fig. 2).

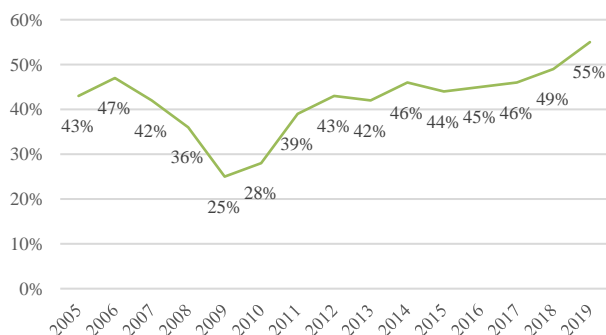


Fig. 2. Dynamics of investments in new technologies

The stimulating factors were the following: cybersecurity, data analysis, artificial intelligence, automation, transformation. Moreover, the priorities of digital transformation are determined not by the industry specifics of companies, but by the experience of using digital technologies in the implementation of business strategies (Table I).

TABLE 1. PRIORITIES FOR DIGITAL TRANSFORMATION

Priorities	World average	Digital Leaders
1	Providing reliable and stable IT services to business units	Development of innovative products and services
2	Improving business processes	Providing reliable and stable IT services to business units
3	Improving operational efficiency	Improving customer experience metrics
4	Improving customer experience metrics	Improving business processes
5	Enhancing cybersecurity	Improving operational efficiency

The survey results show that about half of companies (44%) go through significant digital changes that significantly affect their activities: the introduction of new products and services, which will have an equal or predominant share compared to existing ones (38%); a fundamental change in the business model, which consists in the transition from selling products to offering services (6%); introduction of new products and services to complement existing (41%).

In the context of the creation and further strengthening of digital foundations, sufficient investments are required in a scalable and secure infrastructure, the quality of which can determine the explosive growth of digitalization [8].

The digital transformation ecosystem, uniting the potential of government, business and the scientific community, should be consolidated in order to positively influence the speed of digital transformation and implementation of innovations, the timing of the formation of competencies for managing new digital technologies and a proactive response to technological and economic disruptions, the pace of implementation of key government programs, and incorporating new business models into the economic environment [9]. Obtaining these results inevitably requires the formation of appropriate digital skills, and this becomes a paramount task for the Russian education system. At the same time, with all the advantages of Russian theoretical science, the domestic education system is devoid of flexibility and adaptability to the challenges of digital transformation in the economic sphere (Fig. 3).

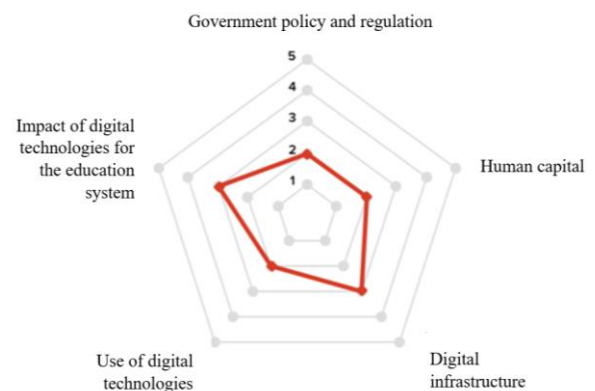


Fig. 3. Assessing Russia's readiness for the digital economy: digital education

It is necessary to strengthen the ecosystem of training, development and upbringing not only along the entire segment of formal education from preschool education to university education, but also with access to the entire trajectory of education throughout a person's life to eradicate this problem [10]. In addition, it is necessary to establish coordinated interaction between educational organizations and the real sector of the economy on a wide range of cooperation in the implementation of educational programs, research projects, training and advanced training programs, the development of educational platforms as a basis for the accelerated formation of digital skills of students and workforce across cities, regions and the whole country.

An important problem is the development of a complex of measures aimed at preventing the "brain drain", retaining and returning talented Russian personnel to the country, attracting highly qualified foreign specialists in breakthrough areas of the Russian economy.

In addition, a cultural transformation is required. Due to the fact that digital transformation removes barriers to interaction within regions, organizations and industries, it is imperative to replace traditional centralized hierarchical management structures with more flexible horizontal and project structures – such a change is possible with the introduction of a new culture of innovation (Fig. 4) [11].

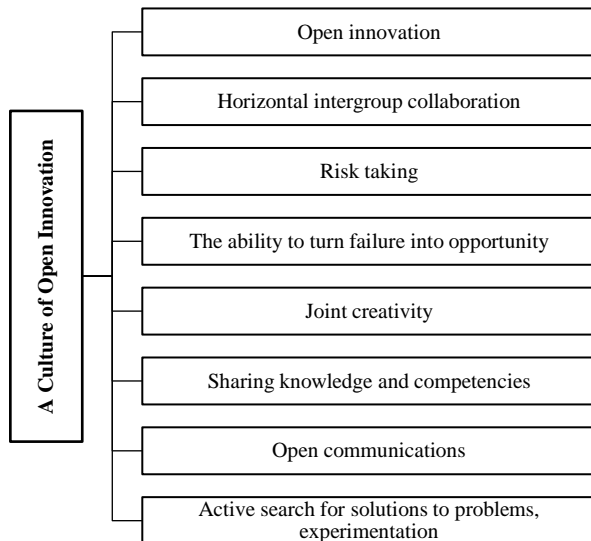


Fig. 4. Key elements of a new culture of innovation

With all the importance of the processes of digitalization of organizations and at the regional level, the top-priority measures of the country's top leadership on the digital transformation of the entire state should be considered as a priority strategic task of national development, set out in a number of decrees of the President of the Russian Federation ("May decrees" of 2018), and as a long-term the goals of the country's digital development, established in a whole package of documents, such as: the program "Digital Economy of the Russian Federation until 2025", the Digital Agenda of the Eurasian Economic Union until 2025: prospects and recommendations. Achievement of the set goals is possible under the condition of accelerating the pace of digital transformation of the industrial sector of the economy, in which the use of information, communication and digital technologies will create additional value throughout the entire value chain, thereby increasing the global competitiveness of key industries (Fig. 5).

Stimulating innovation and entrepreneurship in the field of digital transformation should become the focus of constant attention of the government, covering: consolidation of interactions in the triad "government-business-scientific community" on innovative development; supporting fundamental research and developing world-class R&D centers; a policy to accelerate the commercialization of R&D results; encouraging the private sector to create new business models and implement strategies to enter new markets; patent regulation and intellectual property protection policy [12].

The government should use digital technologies to address the problem of eliminating inequalities in the development of municipalities and regions of Russia – for this, less developed regions need to be provided access to a more effective implementation of the Digital Economy of the Russian Federation program. It is fundamentally important to take

measures aimed at stimulating demand for innovation from large state-owned enterprises in the regions, developing digital competencies, training management personnel, developing public-private partnerships to create regional innovation clusters [13-15]. A special responsibility of the state should be in relation to the development of digital infrastructure in rural and remote areas, raising awareness of rural residents about the benefits of digital services [16].

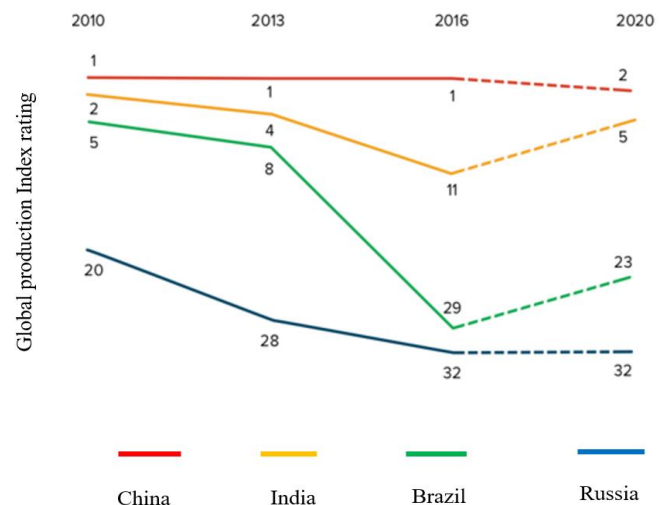


Fig. 5. Global industry competitiveness ranking

An important direction of state policy in the field of digitalization should be the development of an internal market that is receptive and interested in the processes and results of digital transformation – in this regard, it is important: to increase the demand for digital technologies in state corporations and large industrial enterprises, implement digital transformation "from top to bottom" using vertical management structure; improve the business climate throughout the country; take targeted measures to increase regional demand for innovation; provide preferences for public procurement in the field of technology in the regions; build public confidence in the digital economy.

VII. CONCLUSION

The leading factor in the effectiveness of digitalization of the economy and society should be considered the recognition by the country's leadership of digital transformation as a national priority. The impeccable implementation of a targeted state policy of digitalization of key sectors of the economy and all spheres of society will allow Russia to build an efficient and effective ecosystem for an innovative and technological breakthrough, become one of the world leaders in the digital economy, and ensure that significant socio-economic dividends are received.

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