

Transformation Features of the Digital Economy of the Russian Federation

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Abstract — This scientific article is devoted to the analysis of the processes of formation of the conditions for the development of the digital economy in Russia, which are actively undertaken by the state and are obviously necessary for the digital transformation of business. The relevance of scientific research on selected issues is related to the fact that the Russian Federation is undergoing a transitional stage, where the development of digital technologies and economic relations in the digital environment prompt the Government of the Russian Federation to develop a program for the development of the Digital Economy. The key task of state intervention in the process of forming a digital economy is the lack of the necessary conditions that accompany the digital transformation of business and industries. The general structure of national projects and the budget for their state funding during the implementation of the Digital Economy program are analyzed. The features of the implementation of national projects on the formation of the conditions for the development of the digital economy of Russia in the field of technology, personnel and information infrastructure are considered. The main trends proper to the digital transformation of business structures are listed.

Keywords — *digital economy; digital transformation; Fourth Industrial Revolution; information infrastructure; Digital Economy program, digital technologies*

I. INTRODUCTION

The current stage in the development of economic relations leads to a close process of entrepreneurship of the constituent entities of the Russian Federation with the “fourth industrial revolution”. Modern conditions for the functioning of the global and domestic economies are associated with the development of a research environment, the result of which is the development of new technologies and patents. The basis of the research work of many enterprises at the national level is the automation of production activities and the use of intelligent technologies to improve the organization's business process management system.

Against this background, the development of digital technologies is becoming an integral factor in the formation of

the competitiveness of any business operating in the Russian economy. The decrease in the economic efficiency of production activities and, as a result, the probable bankruptcy of companies, the loss of economic efficiency leads to the need to obtain financial stability of a business entity.

II. DISCUSSION

A similar process is observed in Russia, where the key areas of the country's innovative development are being formed, as part of the transition to the digital economy, creating the foundation for the growth of its competitiveness in the conditions of international market competition.

The relevance of scientific research on selected issues is due to the fact that the Russian Federation is undergoing a transitional stage when the development of digital technologies and economic relations in the digital environment must be decided.

The key task of government intervention in the process of forming a digital economy is the lack of the necessary conditions that accompany the digital transformation of business and industries.

The purpose of the scientific article is to analyze the process of forming the conditions for the development of the digital economy in Russia, which are actively undertaken by the state and are so necessary for the digital transformation of entrepreneurial activity.

For this purpose, in the framework of this scientific research, it is necessary to solve the following tasks:

- to analyze the general structure of national projects and budgets for their state financing during the implementation of the Digital Economy program;
- to consider the features of the implementation of national projects to create the conditions for the development of the digital economy of Russia in the field of technology, personnel and information infrastructure;

- to list the main trends that are observed in the framework of the digital transformation of business structures.

Among the main tasks of the state program of the Russian Federation “Digital Economy” we can point out the implementation of national projects, the main of which are “Personnel for the Digital Economy”, “Digital Technologies” and “Information Infrastructure”.

The general structure of national projects and the budget for their state financing during the implementation of the Digital Economy program are shown in table 1.

First of all, it should be noted that 1.634 trillion rubles of funds will be spent on the implementation of the state program “Digital Economy”, of which 1.099 trillion rubles go from budget funds and 0.535 trillion rubles go from extra-budgetary sources [4].

Also, in the framework of the implementation of the state program “Digital Economy” the following alternative sources of financing will be used:

- 45.5 billion rubles – the provision of universal communication services;
- 157.3 billion rubles – expenses accompanying additional financing.

Of these costs, 143.1 billion rubles will be allocated for the implementation of the national project “Personnel for the Digital Economy”. New economic and technological conditions require the creation and implementation of approaches to assist citizens in mastering the key competencies of the digital economy, ensuring mass digital literacy and personalizing education. To this end, the national project “Personnel for the Digital Economy” [1] will be implemented.

The following indicators will be the goals to be achieved by 2024 [1]:

- the number of graduates of higher educational institutions with the competencies necessary for the digital economy – 800 thousand people;
- digital literacy rate – 40 %;
- the number of specialists retrained to obtain the competencies of the digital economy – 1 million people;
- ranking place in The Global Talent Competitiveness Index – around thirtieth .

451.8 billion rubles will be allocated for the implementation of the national project Digital Technologies. The key objective of the project is to ensure the technological independence of the state, the possibility of commercializing domestic research and development, as well as accelerating the technological development of Russian companies and ensuring the competitiveness of the products and solutions they develop on the global market [2].

The following indicators will be the goals to be achieved by 2024 [2]:

- increase in money spent on digital development – 300 %;
- increase in revenue for companies using digital technology – 250 %;
- the number of PCT (Patient cooperation Treaty) applications for “end-to-end” digital technologies – 300 %.

772.4 billion rubles will be allocated for the implementation of the national project “Information Infrastructure”. This particular area has been developed to meet the needs of the economy for the collection, storage, processing and transmission of data by domestic communication networks and infrastructure. One of the pillars of the national project is the provision of broadband access to the Internet [3].

The following indicators will be the goals to be achieved by 2024 [3]:

- rate of households having access to the Internet – 97 %;
- rate of state and municipal organizations using the Internet – 100 %;
- the number of industries in which 5G communication network technologies are implemented – 5;
- Russia's share in the international market for processing and analyzing data storage databases – 5 %.

The implementation of the state program “Digital Economy of the Russian Federation” plays a crucial strategic role in the further socio-economic development of our country. Given current trends, digital transformation is much-needed, and abandoning it can be followed by negative consequences.

As of today, for the second year already, the Digital Economy program has been implemented, which calls for taking measures such as allocating funding from budget funds by the Government of the Russian Federation. Among the solutions is an increase in the VAT level from January 1, 2019 (from 18 % to 20 %), which should bring additional 650 billion rubles to the state budget of the country for the current year.

The key obstacle in the implementation of national projects is precisely the budget deficit and the provision of the necessary level of regulatory framework, which will stimulate the development of new digital relations.

If we analyze the goals and objectives that the Government of the Russian Federation sets when implementing national projects in the context of the transition to the digital economy, we can see that their indicators are quite realistic and coincide with global trends in the development of developed economic systems, where digital technology and the digital transformation of the state and public sectors have become a standard practice.

TABLE I. FINANCIAL SUPPORT OF THE NATIONAL PROGRAM "DIGITAL ECONOMY"

№	Name of the federal project and sources of financing	The amount of financial security by years of implementation (million rubles)							Σ (million rubles)
		2018	2019	2020	2021	2022	2023	2024	
1	"Normative regulation of the digital environment"	220	297	297	307	265	265	266	1 697
1.1.	provided by the federal budget	220	–	–	–	–	–	–	–
1.2.	additional expenses of the federal budget	–	265	265	265	265	265	266	1 591
1.3.	extra-budgetary sources	–	32	32	42	–	–	–	106
1.4	expenses for the allocation of additional financing in excess of the limit established by the Ministry of Finance of the Russia Federation	–	–	–	–	–	–	–	–
2	"Information Infrastructure"	2 391	94 696	322 270	89 799	105 859	89 531	70 246	772 401
2.1.	provided by the federal budget	2 177	10 000	–	–	–	–	–	10 000
2.2.	additional expenses of the federal budget	–	31 714	48 121	67 920	105 859	89 531	70 246	413 391
2.3.	extra-budgetary sources	214	52 982	274 149	21 879	–	–	–	349 010
2.4	expenses for the allocation of additional financing in excess of the limit established by the Ministry of Finance of Russia	–	–	–	–	–	–	–	–
2.5.	provision of universal communication services (provided by the Federal Law "On the Budget")	–	13 465	13 460	18 534	–	–	–	45 459
3	"Personnel for the digital economy"	–	10 864	14 886	24 956	30 420	31 853	30 109	143 088
3.1.	provided by the federal budget	–	–	–	–	–	–	–	–
3.2.	additional expenses of the federal budget	–	10 499	13 316	22 421	30 420	31 853	30 109	138 618
3.3.	extra-budgetary sources	–	365	1 570	2 535	–	–	–	4 470
3.4	expenses for the allocation of additional financing in excess of the limit established by the Ministry of Finance of the Russia Federation	–	–	–	–	–	–	–	–
4	"Information Security"	387	7 647	9 674	10 080	1 051	979	773	30 204
4.1.	provided by the federal budget	365	35	35	35	–	–	–	105
4.2.	additional expenses of the federal budget	–	4 780	5 534	4 867	1 051	979	773	17 984
4.3.	extra-budgetary sources	22	2 832	4 105	5 178	–	–	–	12 115
4.4.	expenses for the allocation of additional financing in excess of the limit established by the Ministry of Finance of the Russia Federation	–	10 127	12 108	20 677	–	–	–	42 912
5	"Digital Technologies"	505	41 663	77 162	139 313	67 342	65 991	60 338	451 809
5.1.	provided by the federal budget	505	–	–	–	–	–	–	–
5.2.	additional expenses of the federal budget	–	21 473	25 472	41 579	67 342	65 991	60 338	282 195
5.3.	extra-budgetary sources	–	20 190	51 690	97 734	–	–	–	169 614
5.4	expenses for the allocation of additional financing in excess of the limit established by the Ministry of Finance of Russia	–	–	–	–	–	–	–	–
6	"Digital Government"	3 723	29 284	30 916	40 814	53 078	44 775	36 838	235 705
6.1.	provided by the federal budget	3 723	3 227	3 096	3 096	–	–	–	9 419
6.2.	additional expenses of the federal budget	–	26 057	27 820	37 718	53 078	44 775	36 838	226 286
6.3.	extra-budgetary sources	–	–	–	–	–	–	–	–
6.4.	expenses for the allocation of additional financing in excess of the limit established by the Ministry of Finance of the Russia Federation	–	4 921	17 462	21 094	26 769	22 028	22 147	114 421
In total, according to the national program, from all sources, including:		7 226	212 964	498 235	365 574	284 784	255 422	220 717	1 837 696
federal budget:		6 990	108 050	123 659	177 901	258 015	233 394	198 570	1 099 589
anticipated expenses, including the costs of ensuring the informatization of federal executive bodies and governing bodies of state extra-budgetary funds		6 990	13 262	3 131	3 131	–	–	–	19 524
additional expenses		–	94 788	120 528	174 770	258 015	233 394	198 570	1 080 065
provision of universal communication services (provided by the Federal Law "On the Budget")		–	13 465	13 460	18 534	–	–	–	45 459
expenses for the allocation of additional financing in excess of the limit established by the Ministry of Finance of the Russia Federation		–	15 048	29 570	41 771	26 769	22 028	22 147	157 333
extra-budgetary sources		236	76 401	331 546	127 368	0	0	0	535 315

It should be noted that in connection with the development of the digital economy of Russia, changes are taking place within the framework of entrepreneurial structures that have acquired the following characteristics [5, p. 214]:

- appearance in production of an information factor, which has become a necessary type of resource, and no less important than financial or labor capital;
- increase in the cost of producing goods and services, an increase in the cost of production, since information and technology tend to increase their price and value, which makes the business of many enterprises less profitable;

- reduction of transaction costs due to the use of information technology, including the fact that the number of possible financial counterparties is reduced;
- increase in the value of the labor and intellectual resources necessary in the production and consumption of information resources and technologies (trends are emerging when successful companies develop mechanisms by which they retain their employees on an ongoing basis of labor activity for a long time period);
- reduction of the level of uncertainty and the probability of the absence of a correct forecast / plan, since the use of information resources increases the accuracy of the statistical and fundamental analysis of the enterprise's production.

III. SUMMARY

Summing up the results of the scientific research, it is worth noting that the key task of all the analyzed national projects is to achieve the targets for improving the digital environment, digital resources, infrastructure, technologies and the economic system of Russia.

The need to implement the national project "Digital Infrastructure" is explained by the fact that without the creation of the necessary communication and information networks, the development of digital relations is impossible. The need to implement the national project "Digital Technologies" is explained by the fact that this is encouraging research and innovation, both commercial and non-profit (including state) organizations that can create those digital technologies and tools, without which it is impossible to create a digital infrastructure, economy and environment.

However, the implementation of both national projects is pointless without training the necessary human resources; this is a strategic task of "Personnel for the Digital Economy".

Thus, all national projects in the context of Russia's transition to a digital economy model are components of the overall strategy, a program to create the necessary conditions and means to realize the maximum potential of our country. Thanks to their formation and implementation, those necessary conditions are being created that is important for the Russian Federation during the transition period to a digital economy model.

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