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**ECONOMIC POLICY FOR COUNTRY'S DIGITALIZATION: A CASE STUDY\***

**Valentina Ivanova<sup>1</sup>, Andrey Poltarykhin<sup>\*2</sup>, Andrzej Szromnik<sup>3</sup>, Olga Anichkina<sup>1</sup>**

<sup>1</sup>*K.G. Razumovsky Moscow State University of technologies and management (the First Cossack University) (RAZUMOVSKY MSUTM (FCU)), 109004, st. Ground Val, 73, Moscow, Russia*

<sup>2</sup>*Plekhanov Russian University of Economics, 117997, Stremyanni Alley, 36, Moscow, Russia*

<sup>3</sup>*Cracow University of Economics, 31-510, st. Rakowicka 27, Krakow, Poland*

E-mails: <sup>2\*</sup> [Poltarykhin@mail.ru](mailto:Poltarykhin@mail.ru) (corresponding author)

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**Abstract.** The theoretical foundations for the development of the digital economy and e-government are considered in this article. The main objectives of Russia's transition to the digital economy are listed. The relevance of the development of the digital government concept is considered. The indicators of the current level of state development in the framework of digitalization and the formation of e-government are analyzed. The main problems, the solution of which makes the implementation of the digital government project of the Russian Federation possible, are singled out. Digital economy development is associated not only with the progress of the information technology and innovation industry, but also with the improvement of the labor market, where new jobs, professions and personnel are created. In this regard, there is a rapid process of the foundation of society, where one job becomes low-paid, and new professions allow one to receive a personal income at the level of top managers of small and medium-sized enterprises.

**Keywords:** digital economy; digital government; Russian economy; e-government

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## 1. Introduction

The modern world cannot be imagined without the extensive use of information technologies, which have facilitated the commercial activities of enterprises exponentially while the management system has been made more perfect (Perpelyak and Salomatina, 2014). It is for this reason that research in the field of "digital economy" has a high level of relevance since it analyzes a new direction of economic theory and practice.

Based on research in the modern society development, Decree of the President of the Russian Federation of 09.05.2017 No. 203 entered into force the Strategy for the Development of the Information Society in the Russian Federation for 2017-2030 (hereinafter the Information Society Strategy). The goal of the Information Society Strategy is to create conditions for the knowledge society formation in the Russian Federation. This normative legal act is designed to promote: human potential development, safety and security of the citizens and the state, improvement of the Russia's role in the global humanitarian and cultural space, improvement of the efficiency of the government, development of the economy and social sphere, as well as formation of the digital economy (Asaliev et al., 2014; Korableva et al., 2018).

## 2. Methods

The Information Society Strategy is a long-term regulatory legal act. The goal-setting within the framework of long-term planning is aimed primarily at the stability improvement of the economic situation within the state.

Digital economy is an activity in which production key factors are the data presented in digital form, and their processing and using in large volumes improve the efficiency, quality and productivity in various types of production, technology, equipment, during storage, sale, delivery and the consumption of goods and services (Perpelyak & Salomatina, 2014).

A cosmopolitan diffusion of digital technologies in the economy and society since the end of 20th century resulted in a situation where the experts have begun to discuss the digital revolution, leading to large-scale and radical transformations of many aspects of business, providing unprecedented opportunities and penetrating all fields of global economy (Smirnova & Rudenko, 2017; Korableva et al., 2017; Akhmetshin et al., 2017; Kovalenko et al., 2018a; 2018b). In many ways, these transformations are due to the digital technology properties, namely:

- ✓ high quality, rapidity, inerrancy and reliability of transmission, storage and processing of digital signals (accuracy, inerrancy, safe-keeping and integrity, high image quality);
- ✓ flexibility – a wide range of types of information with which digital technologies work (texts, numbers, photo, audio, video);
- ✓ the possibility of endless reproduction of the signal (information) without compromising its quality (for example, a display of a page on the Internet);
- ✓ zero (minimum) signal transmission marginal costs within the network structure;
- ✓ ease of use, user-friendliness, flexibility and convenience of interfaces, the development of a variety of services for consumers (for example, various screen formats, resolutions, picture size, etc.);
- ✓ integrability of different systems, since digital technology uses the communication between the devices based on standardized protocols. This allows one to build flexible multi-level integrated systems.

The digital economy development is observed in almost all countries of the world, including Russia. For example, according to the state programs for the development of the national economy of the Russian Federation in the framework of the transition to a digital economy, the following strategic goals are set (Draft of the digital economy program, 2018; Andieva and Filchakova, 2018; Carothers, 2018): the growth of public involvement in

the digital economy (Kamolov, 2019; Mikhailushkin et al., 2018); the creation of a market infrastructure, ensuring the development of information technologies and interaction of the digital economy subjects; cost reduction in the interaction of the following subjects "citizens – state – business"; improvement of the competitiveness level of the economy (Sadriev & Mullakhmetov, 2016; Kamolov, 2017; Chernopyatov et al., 2018; Khairutdinov et al., 2018; Oumlil & Juiz, 2018).

Undoubtedly, a positive factor, contributing to the widespread of digital technologies is the rapid decline in prices for digital devices with the equally rapid expansion of their functionality. The ability of digital devices to operate for years without service is also important.

Digital technologies are becoming not just a tool for implementing the strategy of modernizing public administration (Nechaev et al., 2018; Krasnyuk et al., 2018), but also largely determine the direction of change. If in the early stages, states seek to maximize the share of public services available in electronic form, then as digital transformation proceeds, the composition of public services will change and the number of types of services provided will decrease. Similarly, the popular idea of “state as a platform” is not relevant for the stages of fully digital and “smart government” (Table 1).

**Table 1.** Maturity stages of digital government: from e-government to “smart government” (according to Gartner’s classification)

Parameter	E-government	Open government	Data centric government	Fully digital ruler	"Clever ruler
	Initiation	Development	Definition	property	property
Priority aspects	Performance requirements, efficiency	Transparency and openness	Subject value	Control	Optimization
The main channel for the provision of public services	Government services portal	Public administration as a platform	Non-state	Transformation	Resilience
Core technology	Service	Open data, open services	state channels	Using different channels	Automation replaces portals
Performance Indicators	Orienteering	The share of open data in total data	Opening all data	Things like data	Smart machines (robotization)

*Source:* according to Gartner’s classification

An analysis of the maturity stages of digital government proposed by Gartner’s experts shows that an important sign of digital transformation is not only changing the way government functions (public services) are implemented, including processes and subprocesses performed when performing public functions and government services, but and their understanding and composition. We illustrate these considerations on the example of some types of state functions (services) (Fig. 1).

As it is	How can
<ul style="list-style-type: none"> <li>- A citizen applies for a public service (to the authority, to the MFC, to the portal) and receives the result of the service;</li> <li>- Document = paper;</li> <li>- The organization reports to the tax authorities, extra-budgetary funds, statistics authorities, etc., incl. in electronic form through "digital intermediaries";</li> <li>- The organization independently records the data of production control, which is the subject of verification;</li> <li>- Development of public policy - rule-making departments as a reaction to high-profile cases, formal consultations.</li> </ul>	<ul style="list-style-type: none"> <li>- State services are presented by default upon the occurrence of life events;</li> <li>- Document = entry in the registry;</li> <li>- The accounting program automatically reports to the authorities;</li> <li>- Documentary checks are carried out in an autonomous (automatic) mode;</li> <li>- Remote control and autonomous correction in case of detection of violations (for example, over-emissions);</li> <li>- Continuous adaptation of state regulation, taking into account the needs of the final recipients and assessing the effect of the implemented policy.</li> </ul>

Fig. 1. Examples of changes in public administration based on digitalization

Source: Baranova, 2017

Thus, based on the above analysis, under the digital transformation we propose to understand the qualitative change based on the digitization of the content of public administration, including its individual procedures, stages of the management cycle, public functions and their types, leading to an increase in the quality of public administration. At the same time, the quality of public administration is understood as its compliance with three key criteria — validity, effectiveness and efficiency.

Digital technologies can significantly transform the processes of monitoring and evaluating the results achieved. In this sense, international initiatives on the use of “big data” for official statistics (including as an alternative to the traditionally used methods) are of interest. In 2017, under the UN Department of Statistics, a Global Working Group on “Big Data” was created to develop a strategic vision, direction and global program on the use of “big data” for official statistics, to support the practical use of “big data” sources for statistical purposes and develop solutions to the challenges associated with their use, as well as support capacity development and the exchange of experience on this issue.

The Global Working Group includes twenty countries and nine international organizations. In 2015-2017 Global Working Group has carried out significant work on the collection and systematization of information. Russia is not a member of the Global Working Group on projects aimed at using “big data” in official statistics. The corresponding database is published on the website of the organization.

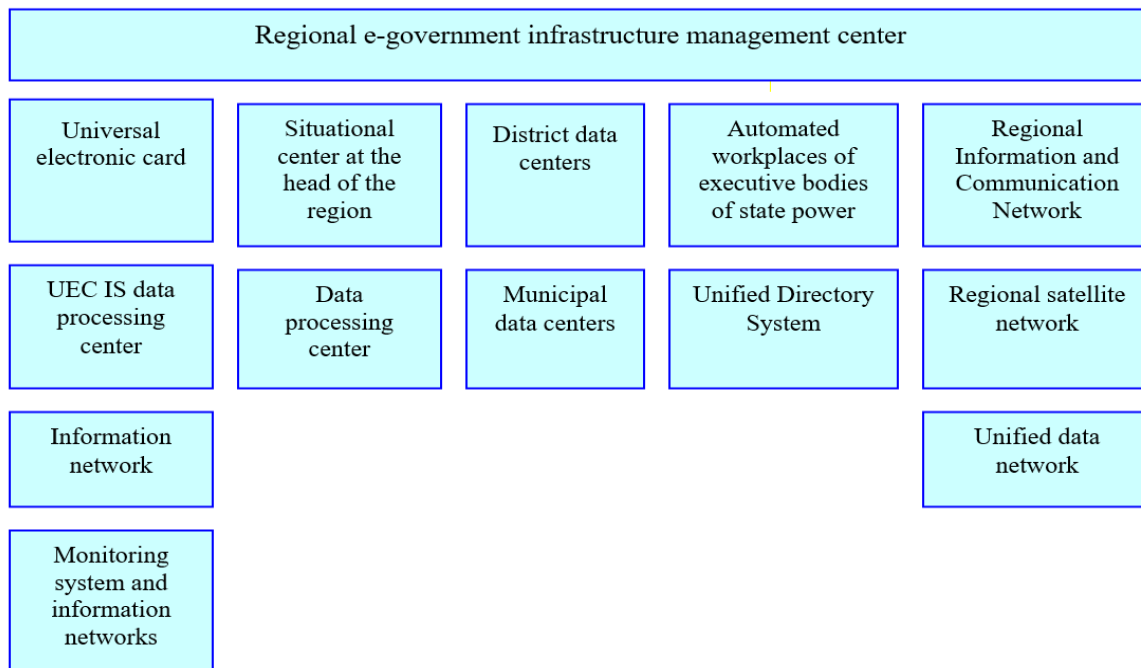
Thus, the technologies of the Internet of Things and “big data” make it possible to use fundamentally new data sources beyond the limits of traditional statistics and administrative data of agencies for monitoring the results of public policy implementation. Digital platforms are often used for monitoring and evaluating the effectiveness and efficiency of state authorities in foreign practice, especially in terms of monitoring and assessing the quality of public services.

### 3. Results

In order to implement the state program “Information Society (2011–2020)” in 2014, the following main activities were defined in the Ministry of Economy and Development of Russia:

- formation of an automated information system "Federal Register of State and Municipal Services (functions)";
  - evaluation of the activities of state and municipal authorities on the transfer of services into electronic form, monitoring of provided state and municipal services in electronic form;
  - development and maintenance of the functioning of automated processes for the provision of state and municipal services;
  - development of monitoring to identify the quality of the provision of state and municipal services through the information and analytical system;
  - development of the open data portal in the Russian Federation, methodological assistance of state and municipal authorities to provide access to open data;
  - development of an automated information system within the framework of the state programs of the Russian Federation, which ensures the openness of the activities of state and municipal authorities;
  - development of the methodology of the state automated information system "Management";
- development of information systems that are aimed at supporting small and medium-sized businesses.

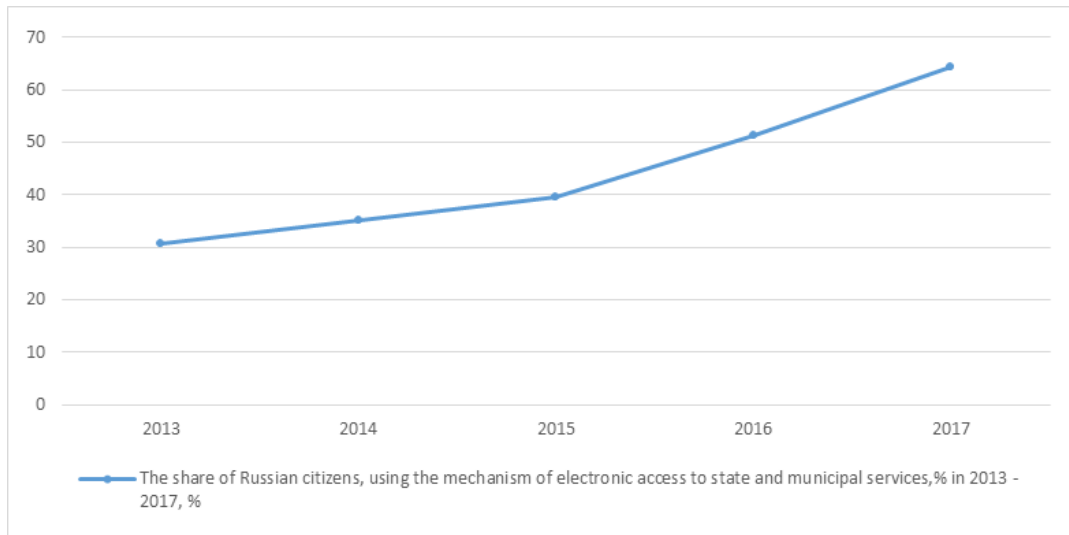
The trends that undoubtedly affect e-government include the increased importance of knowledge sharing and interoperability, transformation in service delivery and integration, flexible organizational structure and ubiquity. If we apply these effects to the four functions of e-government, we get the following picture of new trends (Fig. 2).



**Fig.2.** Factors and development trends of e-government

Source: Baranova, 2017

Currently, the Government of the Russian Federation is still far from the implementation of its project on adaptation to digital space. Accordingly, in terms of Competitiveness in the field of e-government, the country ranks 35<sup>th</sup> in the world ranking. The rating is even worse in terms of Digital competitiveness, – the 42<sup>nd</sup> place (Kosorukov, 2017).



**Fig. 3.** The share of Russian citizens, using the mechanism of electronic access to state and municipal services in 2013-2017, %

*Source:* Fedstat, 2018

At the same time, a positive trend in the number of citizens using the mechanism for obtaining state and municipal services through the electronic form can be observed (Figure 1).

Consider examples of a comparative nature in the formation of e-government activities in the countries of near and far abroad. The most authoritative, complete and stable among the existing e-government development level ratings is the OOH Global E-Government Survey (Global E-Government Survey) rating, which has been published since 2003 (Andreeva, 2017).

It is based on the e-government development index. The country's e-government development index is calculated as the result of averaging three private indices: the level of development of online services, infrastructure, and human capital. In addition, the UN also calculates the e-participation index (e-participation), the results of which do not affect the e-government development indicator. Table 2 shows the figures for the e-government index (1) and the e-participation index (2) in the UN global reports of Russia, Kazakhstan, Belarus, Ukraine and Armenia.

**Table 2.** UN Global Reports of e-government of Russia and neighboring countries

UN Global Reports	Russian Federation		Kazakhstan		Armenia		Republic of Belarus		Ukraine	
	1	2	1	2	1	2	1	2	1	2
2004	58	91	83	69	86	91	81	102	54	24
2006	52	41	69	59	83	97	58	32	45	24
2008	50	61	65	47	106	83	51	36	48	28
2010	60	98	81	98	103	135	56	98	41	14
2012	59	86	46	18	110	135	64	51	54	48
2014	27	19	38	3	94	161	61	109	68	83
2016	27	30	28	22	61	59	55	92	87	77
2018	35	32	33	67	87	84	49	76	62	32

*Source:* according to own research

Enhancing citizen feedback, providing electronic services to them, creating public service portals for providing online transactions on a “single window” principle, as well as unified information and reference support systems for citizens and organizations is an incomplete list of the global trend of e-government development (Baranova, 2017).

The components of e-government in the United States are state online services, the most popular of which are income tax registration, licensing requests for fishing and hunting, renewal of professional licenses, transfer of employment information, registration of complaints about organizations, and public loan requests. E-learning provides learning opportunities to federal institutions.

In 2012, the UN published the results of a study of the countries of the world over the previous two years, a review entitled “E-Government Review 2012. E-Government for People” (“United Nations E-Government Survey 2012”). According to the main results of this study, the Republic of Korea is the world leader in the field of e-government (e-government index for this country is 0.9283), then the Netherlands is located (0.9125), the United Kingdom (0.8960) and Denmark (0.8889). The groups of leaders are followed by countries such as the USA, Canada, France, Norway, Singapore and Sweden.

The main reason for digital inequality is the lack of information and communication infrastructure, which impedes the use of information and knowledge.

Nevertheless, the expectations of citizens and businesses, which are formed on the basis of the experience of a wider use of technology, as well as new goals set by the leading countries in the framework of digital government development strategies, indicate not only that it is necessary to bring to the logical end all the ongoing activities but also to look into the future and outline the transition to the development and implementation of the next phase of the strategy, namely the strategy of transition to digital government (Digital Government 2020, Poltarykhin et al., 2018).



#### 4. Discussion

At the present stage of development of the digital government in Russia, the practical implementation of the principle of designing digital services by default, reorienting the multifunctional centers and other service centers to train citizens to perform the operations online without the need to maintain a personal presence mode is important (Prodanova et al, 2019b). The government should provide for the possibility to use the mobile devices to carry out transactions from beginning to end when each new state or municipal service is converted into electronic form. For the successful implementation of the principle of the provision of digital services by default, the government services in digital format should be attractive and easy to use for the vast majority of citizens. It is necessary to change the government's approach to the development of new public services, orienting it to the user, in respect of which the government acts as a whole and takes into account its key needs.

The development strategy of digital government should integrate the departmental systems for rendering state and municipal services within a single portal the infrastructure of which will provide a number of common services, including an identification and authentication system, a payment system, a support for SMS gateways, and the integration of personal data, addresses and contact information (Kirillova et al., 2018). The integration of digital services with the user-orientation within a single portal will help to solve the problem of lack of funds and specialists required for the development of different systems in numerous departments, including regional and municipal levels of government (Ilyina et al., 2019; Polyakova et al., 2018; Koptev et al., 2019; Voronkova et al., 2018a; 2018b; Nagimov et al., 2018).

Thus, the following tasks and recommendations on the development of the digital government of the Russian Federation are formed:

- ✓ it is necessary to force the events and create a program project for the implementation of the digital government of the country until 2021;
- ✓ to build new infrastructure elements for creating a digital space for state and municipal government;
- ✓ to create a more comfortable institutional environment for the operation of the digital space;
- ✓ to accelerate the implementation of the Russian Digital Economy project, including the points regarding interaction and communication between society and the government, as well as between business and the government;
- ✓ to pay a great deal of attention to a solution of the problem of digital inclusion, taking into account the scale of the territory of Russia and its demographic characteristics.

#### Conclusions

In conclusion, it should be noted that Russia has accumulated quite positive experience in e-government creation, including the interdepartmental information exchange systems – the Unified Interdepartmental Information and Statistical System and the Interdepartmental Electronic Document Management System that facilitate the transition to a more advanced level of information exchange between various government departments. However, the construction of a full-fledged digital government requires a transition to the state sharing infrastructure, launching a unified state cloud platform to provide the services able to improve the quality and security of interaction between departments, provide financial savings by refraining from creating duplicate infrastructures in individual departments or regions. The government can also support the development and implementation of the most popular sharing applications by various government departments on the basis of cloud technologies, supporting the virtualization of workplaces, digital mail and workflow, workflow processes management, infrastructure monitoring etc. Instead of the creation of own systems, the regional government bodies and local governments should be given the opportunity to receive high-quality digital services they need from state cloud resources. Such a system will provide standardized and scalable platforms for the creation of new digital services and, over time, will allow the integration of existing state information systems into a common state resource for computation and data storage. In addition to these services, government cloud resources can become a platform



for the operation of a wide variety of digital service providers, including the innovative companies that will offer their products and services to the regions and municipalities.

Thus, the development of the digital government of the Russian Federation is a strategically important objective for the current socio-economic growth of our state. Taking into account Russia's current position in the global competitiveness ranking of the digital economy, it is necessary to increase the funding and to allocate the budget funds to create a market infrastructure to support the digitalization of business, public services and management. Moreover, given the increasing demand of the citizens of the country for the provision of services through electronic channels – this indicates the relevance of this problem for society as well. Besides, it is through the creation of a digital government that many institutional and fundamental factors for the development of the shadow sector, corruption and bureaucracy within the government can be solved.

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**Valentina IVANOVA**

ORCID ID: 0000-0002-1752-3604

**Andrey POLTARYKHIN**

ORCID ID: 0000-0003-2272-2007

**Andrzej SZROMNIK**

ORCID ID: 0000-0003-2494-0753

**Olga ANICHKINA**

ORCID ID: 0000-0002-0243-4457

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