

# Digitization of the Population in Russia: Technologies and Levels of Interaction



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**Abstract:** The article deals with the review of digitalization trends and the subsequent possible transformation of the value consciousness of Russians. The authors analyze the process and probable consequences of the implementation of the programs "Digital economy of the Russian Federation" and "National security strategy of the Russian Federation until 2020". Replacing traditional socio-cultural and moral values of Russians with instinctive ones is what can happen as a result of active digitalization in the most negative development of events. The article focuses on the fact of the formation of new digital (information) values of Russian society in the context of traditional cultural values. The authors note the fact of the modeling of a number of up-to-date values of modern Russian society. The article deals with innovations and social consequences of digitalization for the population of Russia, as well as the digital technologies implementation dynamics in the life of Russian social medium. The main problems associated with the inclusion of digitalization in everyday life of Russians are designated.

**Index Terms:** digitalization, digitalization of the economy, the era of digital society, social consequences, values of Russians.

## I. INTRODUCTION

### A. Problem statement

The reason for studying socio-cultural values is particularly recognized in times of social change and upheaval. The purpose of the program "Digital economy of the Russian Federation" was to create conditions for the development of knowledge society in Russia, improving the standard of living, well-being, and quality of life of the population of Russia using innovations, advantages, and changes associated with digitalization. One of the consequences, when implementing the program "Digital economy of the Russian

Federation", should consist in increasing awareness and digital literacy, as well as the availability of public services for Russians. The program is designed to implement the main provisions of the adopted Strategy of social development in the Russian Federation for 2017-2030. The most intense digitalization process takes place in the Russian megacities. Difficulties with the implementation of digital technologies are observed mostly in remote rural regions of Russia.

Digitalization as a social phenomenon began to be popularized in the 60-70 years of the 20<sup>th</sup> century [1]. Currently, one can state that digitalization has become an integral part of modern social reality. Digitalization replaced informatization and computerization [2].

Digitalization brings new digital values [1]. Changes in the communication system predetermine changes in the value system of the population [1]. New forms, such as clip culture, computer games culture, etc. are being included in the context of traditional culture [1]. The main elements of the new digital culture include computer technology and the diversity of digital devices, namely, the Internet, all types of software, as well as digital variations of traditional means of communication (books, computer games, etc.) [1]. Change in the value paradigm often determines the conditions for the existence of a social medium in general. New technologies, means of communication, opportunities provided by new standards of service predispose to a change in the traditional value system of Russians. Values are a unifying construct for representatives of different population segments. The digital era creates new value paradigm of Russians. Sociologists have been observing the value formation process for centuries, and yet, the variability of value consciousness depends largely on the types of social interaction. In many ways, the existence conditions in the digital age regulate the specificity of social life in general. The digital age presupposes high ability of different segments of the population to social adaptation.

## II. METHODS

### A. General description

Methods of secondary analysis of documentary sources (content analysis) were used in the preparation of this article. An integrated approach was used to study digitalization as a social phenomenon.

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### B. Algorithm

Defining values in terms of the social phenomena, one can distinguish the concept proposed by D.A. Leontiev, who subdivided values in the following way: public ideals, as an initial form of values; subject-embodied values; and personal values (perception in the context of people's activity) [3], [4].

Values play an essential role in the life of the individual, being the basis, on which the further activity of the personality and its relationship with the world is based [5]. Values result from the interaction of the individual and the environment, they are one main aspect of consciousness, regulating the scope of activities and involved in the goal-setting process [6], [7].

Digitization in a narrow sense (the term was introduced into scientific circulation in 1995 [8]) is traditionally understood as the transformation of information into digital form, which further leads to cost optimization, the emergence of new development prospects, etc. [8]. Digitalization is one of the main trends in the development of modern Russia.

The researchers note the specificity of the information value system, such as the idea of the Internet as a source of absolute knowledge, the formation of open information spaces with diverse content and denial of semantic control, the availability and ease of mastering many cultural fields of all nations and segments of the population, and the system of demand information search from a variety of permanent sources of information. All these give rise to a new type of perception of information, which is quite fragmentary [1]. That is, one can conclude that digital culture models the values of modern society. Digitalization and formation of a new value system and value orientations in the digital environment can be especially important for the social group of young Russians.

## III. RESULTS

### A. Digital economy of Russia: transformation of the value system

The situation in Russian society is transformed due to the change in objective conditions for the existence of Russians. Currently, technological innovation can be a source of possible changes in the value system of Russians [9]. Russia is implementing a digital economy program, as it was reported by the President of Russia Vladimir Putin at the International Economic Forum held on June 02, 2017. The Russian Government has approved the program "Digital Economy of the Russian Federation" [10]. The program was drawn up to implement the Strategy of information society development for 2017-2030. In this document, the digital economy is interpreted as "economic activity, in which the key factor in the production is data presented in digital form, which contributes to the formation of the information space, taking into account the needs of citizens and society in obtaining quality and reliable information, the development of information infrastructure of the Russian Federation, the creation and application of Russian information and telecommunication technologies, as well as the formation of a new technological basis for the social and economic sphere" [10]. In the field of education of the population, the program

notes the following goals: "creating conditions for training the digital economy staff; improving the education system" [10]. The labor market should take into account the requirements of the digital economy; formation of a motivation system for the development of necessary competencies and participation of personnel in the development of the digital economy of Russia [10].

The digital economy is represented by three levels that interact and affect the lives of Russian citizens. These are, first of all, "markets and economic sectors, where the interaction of specific economic entities is carried out; secondly, these are platforms and technologies, where competencies for the development of the market are formed; and thirdly, this is an environment that creates conditions for the development of platforms and technologies" [10]. "The main end-to-end digital technologies that are included in the framework of this Program are, among others: big data, neurotechnologies and artificial intelligence, robotics and sensor components, wireless communication technologies, virtual and augmented reality technologies, etc." [10].

### B. Prospects of implementation of digitalization programs: readiness of social medium

The implementation of these programs will entail certain changes, not only technological but also those, which significantly affect social relations in general. It is necessary to answer the question of whether the value consciousness of the Russian society and all its social strata are ready to accept the innovations noted in the Program of the digital economy of Russia. Is the society with its value system ready to accept the innovations in the social life at the level of the average Russian [11]? This refers to trends in robotics and replacement of people with robots in certain areas of work activity (robot-drivers, robot-surgeons, etc.), big data, their collection and use, the creation of new database systems, which will include all possible information, neural technologies, and as a result, possible integration of human brain and computers. Besides, it is proposed to introduce biochips with integrated databases. In the future, under certain circumstances, biochips can replace a passport, tax reference number, social and pension cards, and other documents. Facing these prospects of science and the economic development in general, many questions and problems arise, including those in the field of bioethics. Some experts consider the expansion of digitalization of society as a threat to the interests of the individual [12], [13], as well as the national identity of Russians in general.

Some researchers (V.P. Tugarinov) perceive "values as objects, phenomena and their properties that are necessary for members of a certain society or class, or individual as means of satisfying their needs and interests, as well as ideas and motives, as a norm, goal, or ideal" [5], [14]. The document entitled "Basic values as the basis of national identity" approved by the 15<sup>th</sup> World Russian People's Assembly on May 28, 2011, postulates the traditional values of Russians [15].

In addition, at the state level, the doctrine of the value system of Russians is considered in the "National Security Strategy of the Russian Federation until 2020", adopted on May 13, 2009. It states, in particular, that "the strategic objectives of ensuring national security in improving the quality of life of Russian citizens consist in reducing the level of social and property inequality of the population, stabilizing its number in the medium term, while reaching radical improvement in the demographic situation in the long term" [16], [17]. It is also planned to "increase social mobility, the level of general and vocational education of the population, the professional qualities of highly qualified personnel due to the availability of competitive education" [16], [18]. Yet so far, one has to state the fact that the practical implementation of the objectives of the program "Digital Economy of the Russian Federation" is very slow [19]. Representatives of some segments of the Russian population (especially the older generation) have a hard time perceiving technological changes. To optimize the work on the program "Digital Economy of the Russian Federation", it is necessary to popularize its semantic content in the broad segments of the Russian population.

#### IV. DISCUSSION

Many researchers call digitalization the key to solving some of the problems of the Russian economy, considering that the implementation of changes will lead to long-term economic growth [20], to improvement of the population's quality of life [21], and will ensure the competitiveness of the country and national security [22]. To implement this trajectory, Russians need to trust in digital technologies. However, in many ways, the level of trust is reduced due to a rather high level of cybercrime in Russia. Digitalization is considered mainly in the context of national security. One of the most important and priority tasks is to create information infrastructure in Russia, as well as to support domestic developments and manufacturers of telecommunications equipment [22].

In the scientific literature, there are a number of publications devoted to the prospects of replacing people with robots in a number of economic sectors. So, according to some reports, in the US by 2033, 47% of jobs, existing in 2018, may disappear under the influence of robotics [20]. For China, this proportion can reach 77% (according to World Bank experts) [23]. The following categories of the population are at risk: able-bodied population engaged in temporary work, population working part-time and having casual (nonsystematic) earnings, freelance workers and contract labor, migrants, trainees, and students [23]. The social consequences of digitalization and the implementation of the digital economy can result in what is called "the complex dehumanization of human relations", due to the competition for jobs between robots and people [24].

#### V. CONCLUSION

In addition to the traditional consequences of the digitalization in Russia, there are problems associated with the protection of individual information of Russians, access of cybercriminals to personal data, as well as big data [12]. The

particular aspects of information technology associated with the increase in the collection of biometric data on the representatives of various social groups, as well as "the emergence of implantable electronic identification devices" call a tension in perception among the population.

The digital technology implementation process in Russia has begun, though is developing quite slowly, with difficulties for certain social groups of population (primarily for the rural population of remote regions of Russia and the third age persons). One of the tasks of Russia's digitalization process is "to create a secure information environment based on the popularization of information resources that contribute to the spread of traditional Russian spiritual and moral values" [16].

It is necessary to increase the level of public confidence in digital technologies to optimize the digitalization process in Russia at state level, social group level, and the individual level of a particular personality [25].

The main values listed in article 78 of the National Security Strategy (creative work, as well as family, etc.) have their origins (or interpretation) in Christianity that confirms once again the significance of the changes taking place in Russia today. Prospects for the development of new information values in Russian society can be realized in the near future.

#### REFERENCES

1. E. V. Gnatyshina, and A. A. Salamatov. (2017). Cifrovizaciya i formirovanie cifrovoj kul'tury: social'nye i obrazovatel'nye aspekty [Digitalization and formation of digital culture: Social and educational aspects]. *Bulletin of Chelyabinsk State Pedagogical University*. 8, p. 20. Available: <https://cyberleninka.ru/article/v/tsifrovizatsiya-i-formirovanie-tsifrovoy-kul'tury-sotsialnye-i-obrazovatelnye-aspekty>
2. V. G. Khalin, and G. V. Chernova. (2018). Cifrovizaciya i ee vliyanie na rossijskuyu ekonomiku i obshchestvo: preimushchestva i vyzovy, ugrozy i riski [Digitalization and its impact on the Russian economy and society: Advantages and challenges, threats and risks]. *Management Consulting*. 10, p. 47. Available: <https://cyberleninka.ru/article/v/tsifrovizatsiya-i-ee-vliyanie-na-rossijskuyu-ekonomiku-i-obshchestvo-preimushchestva-vyzovy-ugrozy-i-riski>
3. D. A. Leontiev, Cennost' kak mezhdisciplinarnoe ponyatie: opyt mnogomernoj rekonstrukcii [Value as an interdisciplinary concept: The experience of multidimensional reconstruction]. *Issues of Philosophy*, 1996, vol. 4, pp. 15-26.
4. D. A. Leontiev. Cennostnye predstavleniya v individual'nom i gruppovom soznanii: vidy, determinanty, izmeneniya vo vremeni [Value-based representations in individual and group consciousness: Types, determinants, changes in time]. *Psychological Review*, 1998, vol. 1, pp. 13-25.
5. T. V. Fomicheva. K opredeleniyu ponyatiya «cennosti»: sociologo-istoricheskij aspekt [On the definition of value concept: Socio-historical aspect]. *Scientific Notes of Russian State Social University*, 2012, vol. 7(107), pp. 63-71.
6. T. Fomicheva, Ju. Sulyagina, V. Kataeva, E. Kryukova, and S. Dusenko. Transformation of values in a global society: managerial aspect. *Espacios*, 2017, vol. 38(33), p. 31.
7. T. V. Fomicheva. Vzaimosvyaz' sociokul'turnyh cennostej i reproduktivnogo povedeniya naseleniya Rossii: sociologo-statisticheskij analiz [The relationship of socio-cultural values and reproductive behavior of the Russian population: Sociological and statistical analysis]. *Social Policy and Sociology*, 2017, vol. 16(5), (124), pp. 157-166.
8. N. Negroponete. (1995). Being digital. New-York: Alfred A. Knopf. Available: <http://inance.ru/2017/09/cifrovaya-ekonomika/>
9. T. V. Fomicheva, T. N. Yudina, V. I. Kataeva, E. M. Kryukova, and Ju. O. Sulyagina. Social interaction of generations in Russian families. *Opcion*, 2018, vol. 34(85), pp.1704-1722.

10. Programma «Cifrovaya ekonomika Rossijskoj Federacii». [Digital Economy of the Russian Federation]. (2017). The program, approved by Russian Prime Minister D. Medvedev, order No. 1632-R of July 28, 2017. Available: <http://static.government.ru/media/files/9gFM4FHj4PsB79I5v7yLVuPg u4bvR7M0.pdf>
11. N. I. Lapin. Sociokul'turnye faktory rossijskoj stagnacii i modernizacii [Socio-cultural factors of Russian stagnation and modernization]. *Sociological Research*, 2011, vol. 9, pp. 3-18.
12. T. N. Yudina, and A. V. Alexandrova. Sociokul'turnye cennosti molodyh moskvichej [Sociocultural values of young Muscovites]. *Social Policy and Sociology*, 2000, vol. 3, p. 33.
13. S. V. Korneeva, "Osobennosti realizacii nacional'nogo proekta «Obrazovanie» v regionah" [Features of implementing the national project "Education" in the regions]. Education and Society. All-Russian sociological conference devoted to the 20<sup>th</sup> anniversary of the Russian Society of Sociologists. Moscow: IS RAN, 2009, 359 p.
14. V. P. Tugarinov, "Izbrannye filosofskie trudy" [Selected philosophical works]. Leningrad: Publishing House of Leningrad State University, 1988, 261 p.
15. Bazisnye cennosti – osnova obshchenacional'noj identichnosti [Basic values as the foundation of national identity]. (2019). Official website of the Moscow Patriarchate. Available: [www.patriarchia.ru/db/text/1496038.html](http://www.patriarchia.ru/db/text/1496038.html)
16. Strategiya nacional'noj bezopasnosti [The national security strategy]. (2019). Art. 66. President of Russia. Available: <http://kremlin.ru/supplement/424>
17. A. Gretchenko, I. Gorokhova, O. Demenko, and A. Gretchenko. Digital Economy: Challenges and Threats for Modern Russia. *Journal Of Advanced Research In Law And Economics*, 2018, vol. 9(4), pp. 1243-1248. doi:10.14505/jarle.v9.4(34).09
18. E. Frolova, T. Polyakova, M. Dudin, E. Rusakova, and P. Kucherenko. Information Security of Russia in the Digital Economy: The Economic and Legal Aspects. *Journal of Advanced Research In Law And Economics*, 2018, vol. 9(1), pp. 89-95. doi:10.14505/jarle.v9.1(31).12
19. A. N. Kozyrev. (2017). Cifrovaya ekonomika i cifrovizaciya v istoricheskoy retrospektive [The digital economy and the digitization in the historical retrospective]. Available: <http://Medium.comCEMI-RAS>.
20. I. I. Rosina. (2019). Cifrovizaciya obrazovaniya [Digitalization of education]. Available: [ito.lgb.ru/tezises/1027.doc](http://ito.lgb.ru/tezises/1027.doc)
21. H. R. Varian. Copying and Copyright. *Journal of Economic Perspectives*, 2005, vol. 19(2), pp. 121–138.
22. Cifrovizaciya i nacional'naya bezopasnost' [Digitalization and national security]. (2018). Proceedings of the Forum of the Free economic society of Russia: Abalkin Readings. Available: <http://www.veorus.ru/события/хроника-мероприятий/tsifrovizatsiya-i-natsionalnaya-bezopasnost/>
23. Prekariat [Prekariat]. (2018). Kyocera: Hard and soft for digital information. Retrieved 20.03.2009 from [http://www.tadviser.ru/index.php/Статья:KYOCERA:\\_hard\\_и\\_soft\\_для\\_цифровой\\_трансформации](http://www.tadviser.ru/index.php/Статья:KYOCERA:_hard_и_soft_для_цифровой_трансформации)
24. Predstoyatel' Russkoj pravoslavnoj cerkvi ukazal deputatam i senatoram na opasnost' «cifrovoy ekonomiki». [Primate of the Russian Orthodox Church pointed out to the deputies and senators the danger of the digital economy]. (2018). Available: <https://narasputye.ru/archives/3798>
25. V. I. Nemychenkov, V.I. (2018). Tradicionnye duhovno-nravstvennye cennosti i cifrovaya modernizaciya Rossii [Traditional spiritual and moral values and digital modernization of Russia]. *Society, Political Journalism*. Available: <http://likorg.ru/post/v-i-nemychenkov-tradicionnye-duhovno-nravstvennye-cennosti-i-cifrovaya-modernizaciya-rossii>