

Conference Paper

Formation of Digital Competence of State Servants in the Conditions of Government Digitalisation: The Problem Statement

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Abstract

In the context of public administration digitalization the importance of human resources and their quality increases, which requires state employees to possess new digital competencies (knowledge and skills), and often to master new professional functions that enable them to function effectively in the new digital environment. However, under these conditions, in the process of their professional socialization, a number of problems emerge. The purpose of the research is to determine the conditions and factors affecting the digital competency formation required in the transition to digital public administration of the civil servants digital competencies, as well as to identify contradictions that emerge in their formation process. The study was conducted on the basis of the information society concept, E-Government and the paradigm of the new public administration. The main research methods were documents analysis and statistical data analysis. The study has fixed that one of the factors hindering successful professional socialization in the context of public administration digitalisation is the uncertainty in the content of servants' digital competencies they need, including taking into account future development prospects. The existing vocational education system cannot form digital competencies at the required level for several reasons (closed access to basic digital services and platforms, a variety of departmental digital services and workflow systems available in only one department, etc.). Civil servants are forced to master digital technology is more on its own. The main contradiction emerges in the process of creating digital competencies is the lack of officially fixed requirements for the availability of state and municipal employees' digital competencies and the lack of mechanisms for their assessment in the selection or certification process. Moreover, the need to master the relevant digital competencies follows from regulatory documents.

Keywords: digital competency of civil servants, digital competencies, digital literacy, professional socialization, digitalisation of public administration.

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1. Introduction

The public service and the features of its functioning effectiveness on a global scale drew the attention of researchers and practitioners to a new methodological approach

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— a new managerial approach (neo-managerial approach) [9]. In the framework of this approach, the state can be considered as a service state, providing the needs of society, minimizing its own costs, transparent (transparent) and fully accountable to society. One of the conditions for this service state implementation is the main management processes digitalisation and the relationship of public authorities with the population.

The digital transformation of public relations has led to the priority of the digital technologies influence on the life of society and the state. Digitalisation of everything is a global trend, reflected primarily in the labor market, in changing the spectrum of professions and parameters of professional culture in society [4]. Innovation-oriented economic development is the basis of national security and technological state independence [2]. Digitalisation is one of the priority tasks of the Russian Federation development. The national project Digital Economy, adopted in 2018, includes, among other things, the federal project Digital State Administration, which suggests that Russia should turn into a service state version 2.0 by 2024. In 2018, the President of Russia in his Address to the Federal Assembly of the Russian Federation noted the need to create its own digital platforms and digital services that are compatible with the global information space, which will allow for more efficient organization of production processes, financial services and logistics. In essence, this means the gradual formation of a digital professional environment for government. The federal plans and projects have begun to actively include activities to create the so-called digital platforms. Thus, in the passport of the national program “Digital Economy of the Russian Federation” there are 16 tasks (results) for creating digital platforms, in particular, a digital platform for electronic government, a digital profile platform, an identification platform, a platform for performing state functions, etc. (Federal Law of November 29, 2018 No. 459-FZ “On the federal budget for 2019 and for the planning period 2020 and 2021”).

The digital technologies introduction is due, inter alia, to the fact that digital transactions are much cheaper than analog ones, in paper format and in person. However, this effect is achieved provided that the entire management process becomes digital completely, from start to finish. Therefore, the public administration digitalisation should take place in all directions, and first of all — in supporting activities. However, the question of what competencies (knowledge and skills) will be necessary for employees in a digital environment remains controversial.

In the scientific literature, first of all, the problem of digital literacy was studied. The term “digital literacy” was first coined in 1997 by P. Gilster. He defined digital literacy as the ability to critically understand and use information obtained through a computer in various formats from a wide range of sources [7]. This is the broadest, most generic

understanding of digital literacy as a whole set of digital competencies in further studies has been clarified. Thus, A. Martin under digital literacy understood the awareness, attitudes and ability of individuals to properly use digital tools and means to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources; building systems of new knowledge, as well as communicating with other people with the goal of constructive social actions in the context of specific life situations [12]. As you can see, digital competencies in the aspect of communication are beginning to receive due attention of researchers. G. Jenkins included in digital literacy the ability to work with a computer as hardware (that is, you must understand how human-digital technology interacts), an understanding of the characteristics of the device and the dissemination of digital information (for example, the ability to work with software), an understanding of the network device community and features of social media [8]. In this definition, the separation of digital competencies into so-called hard and software digital skills is noticeable.

The ideas of domestic and foreign researchers regarding digital literacy as a generic concept and its content are quite similar.

The second direction in the scientific discussion is devoted to the issue of digital competencies that will be necessary in the digital economy. L.V. Lapidus identifies as components of the competencies of the digital economy [11], firstly, the competencies necessary for all categories of employees (for example, analytical skills and working with big data, flexible thinking, creativity, multitasking, programming, transdisciplinarity, multi-teamwork), secondly, managerial competencies (hybrid transdisciplinary; development of socio-economic models based on the optimal choice between competition and cooperation; search for new ways of profitability and built the ecosystem of the industry, taking into account the risks of cybersecurity, duplication of the collection and synchronization of big data, etc.), as well as special competencies such as the digital economy systematic knowledge; competencies in organizing teamwork, managing cyberphysical systems and institutional change.

L.V. Shmelkova on the basis of the discussion of the workgroup "Personnel and Education" of the "Agency for Strategic Initiatives" on the development of the draft program "Digital Economy" identifies a number of social roles that require the formation of the individual's specific competencies in the digitalisation context. They are a biosocial personality, citizen, employee, creator [14]. According to this approach, for the effective work of a citizen and a professional in the 21st century, simply knowledge of information technologies is not enough, competences of the 21st century are necessary. For example, a variable model of digital competence may include 3 blocks: digital competencies,

initiative and entrepreneurial competencies, Softskills. The competencies of the 21st century, which are part of the variable model of digital competence, are successively formed in the fields of general education, vocational education, additional professional education and in the process of professional and everyday human activities.

The third area of research has focused on the analysis of digital competence and competencies. G.U. Soldatova and E.I. Rasskazov understands digital competence as the ability of an individual to confidently, efficiently, critically and safely choose and apply info-communication technologies in different areas of life (information environment, communication, consumption, technosphere) based on continuous mastery of competencies (knowledge, skills, motivation, responsibility), as well as his readiness for such activities [15]. Based on this structure of digital competence, the authors identified 4 its types: informational (related to working with information), communicative, technical (working with computer and software) and consumer (satisfying various needs). The most important components of digital competency are motivation and responsibility.

V.S. Petrova and E.E. Scherbik under digital competencies is understood as “skills in the effective use of new technologies” [13]. The authors highlight a number of features of the formation of digital competencies. First, in modern conditions, traditional competencies are losing their relevance, and new, digital competencies have not yet been formed and are only listed by researchers. Secondly, digital competencies are largely dependent on the specifics of the economic sector. It should be noted that public service is a special type of professional activity, built on strict regulatory and legal regulation and designed to serve the socio-economic, political and spiritual citizens’ needs. Naturally, the effective implementation of this kind of activity requires professional socialization, including the development of new-generation digital competencies in the context of the public administration system digital transformation itself.

The concept of “digital competence of civil servants” becomes a more integral characteristic, by which the authors understand the general professional and personal characteristics of the employee, which reflects the level of his / her readiness to use digital technologies in professional activities and the digital environment of public administration, including the availability of the necessary digital competencies.

2. Methodology and Methods

The leading concept of an employee’s competences studying is the theory of human capital. The scope of this concept in the 21st century expanded significantly, and the ICT components of human capital began to be considered independently. Thus, some

authors propose to consider it as an independent type of digital capital (M. Ragnedda, Paino, M., & Renzulli, L. A., Bach A., Shaffer G., Wolfs T., etc.).

The public administration digitalisation is based on the concept of an electronic state. Today, the term “e-Government” is internationally accepted and is widely used in all countries of the world where e-government programs are implemented. The e-government concept has been reviewed by Curthoys N., Crabtree J., Fang Z., Heeks R. et al. E-government is more than the introduction and use of ICT in government. First of all, this is a new concept of public administration, which implies a change in the relationship between the state and society, including reengineering of governance processes in state structures, modernization of means and methods of exercising public functions with the help of ICT, development of democratic foundations of public administration, ensuring the principles of openness and accountability to society.

One of the first researchers, K. Kramer and A. Northrop, urged government programs to include disciplines on working with information and communication technologies in the curriculum, even then assessing the strong dependence of the service on the use of information technology [10]. S. Daws spoke about the need to introduce and use a more comprehensive curriculum on information strategy and management [6], while M. Brown and J. Brudni praised the use of information technology by government officials in strategic planning [5].

The main research methods were documents analysis and statistical data analysis. The documents analysis was used to assess the development of the regulatory framework of the process of public administration digitalisation in the Russian Federation, as well as to search for information on changes in the working conditions of public servants in the context of digitalisation and the establishment of relevant qualification requirements. Also, the authors analyze the federal state educational standards in the direction of “state and municipal government” education. The statistical data analysis was used to assess the share of public servants with the necessary education in the field of ICT and the proportion of employees who have undergone advanced training in this direction.

3. Results and Discussion

The need to include knowledge and skills in the field of ICT in the requirements for state and municipal employees was due to the formation of an electronic state in the Russian Federation. The recommendations on the composition of the qualification requirements for computer literacy required for the performance of official duties by federal state civil

servants approved by the minutes of the absentee vote of members of the Government Commission on the use of information technologies to improve the quality of life and the conditions for conducting business life dated December 18, 2017 No. 3 contain 5 sections:

1. Knowledge of the information security basics and information protection,
2. Knowledge of the main provisions of the legislation on personal data,
3. Knowledge of the functioning of the electronic document management system general principles
4. Knowledge of the legislation on electronic signature main provisions
5. Basic knowledge and skills on the use of a personal computer.

These requirements were in the same form included in the Guide to Qualification Requirements for Specialties, Directions of Training, Knowledge and Skills, which are Necessary to fill the positions of the state civil service, taking into account the area and type of professional service of state civil servants, adopted by the Ministry of Labor of the Russian Federation.

However, this list is controversial. Thus, for example, Vasilieva E.V., Pulyaeva V.N., Yudina V.A. proposed to include digital competencies in the composition of IR competencies. According to the authors, they represent the ability to create digital content, the skills of forming digital collaboration, network etiquette, the skills of digital exchange, digital security, etc. [16]. The requirements for digital knowledge and skills are determined by the category and group of civil service posts and are divided into three levels. The basic level should be formed for employees replacing the posts of categories of assistants, specialists and providing specialists. It includes knowledge of hardware, the use of ICT in public administration, general information security issues, as well as skills with PC devices, basic programs (text, tabular, presentation). An advanced level should be formed among employees replacing the positions of the category of leaders of the highest and main groups. Its feature is the need for knowledge of the legal and programmatic foundations of the use of ICT. A special level is necessary for all employees, includes knowledge and skills of working with specialized information and communication systems (analysis and storage of information, interaction with the external and internal environment of the public administration system, etc.) [16].

In our opinion, when determining the digital knowledge and skills necessary for employees, it is necessary to proceed from the present and future tasks of public

administration. In the context of the digitalisation of the state authorities' activities in various fields, the provision of public services, the digitalisation of HR technologies in the civil service, knowledge of the electronic government system of the Russian Federation and the skills to work with specialized systems of various kinds — state information systems (GIS) —are becoming indispensable for all employees, including federal (FSIS), information-analytical (IAS), automated information (AIS), state automated (ASG) et al. (IP, ERC, GIIS, UIAS). The number of state information systems, databases and resources is increasing every year, both at the federal level and in the constituent entities of the Russian Federation. At the same time, uniformity in systems and resources is not always traced. In this regard, the question arises about the possibilities of forming the necessary knowledge and skills for employees at the stage of obtaining professional education.

However, the issue of employee readiness for public administration digital transformation is not limited to the issue of the skills availability in using standard software tools. To a much greater extent, readiness for digital transformation depends on the level of mastering the regulations and the practice of using specialized tools, a deeper understanding of their duties, principles and goals of public administration as a whole, i.e. from professionalism in the broadest sense of the word.

The question arises of how the vocational education system is able to form the digital competencies necessary for civil servants. Citizens with a diverse focus on vocational education come to the civil service. According to statistics for 2019, the share of public servants of the executive bodies of state power of the constituent entities of the Russian Federation with education in the direction of “State and municipal administration” is no more than 45%. Accordingly, the professional socialization of civil servants occurs after the replacement of the civil service position [1]. As for specialized higher education, it also cannot fully prepare for future professional activities in the context of digitalisation. GEF undergraduate studies in the field of “State and Municipal Administration”, approved in 2014, contains only one general professional competence, which can conditionally be classified as digital — “the ability to solve standard tasks of professional activity based on information and bibliographic culture using information and communication technologies and with taking into account the basic information security requirements (OPK-6).” To solve the problems of public administration professional activity in each sphere, as well as at its various levels (federal and regional), various digital technologies are used (resources, bases, platforms). The problem is not only the diversity of existing ICTs, but also the availability of departmental access to them. In practice, vocational education organizations and their staff do not have access to most of these systems, and even to methodological documentation for them.

Thirdly, according to the studies, a significant part of modern Russian schoolchildren and students express dissatisfaction with the digital infrastructure of schools and higher educational institutions [3]. Accordingly, the formation of relevant digital competencies of not only professional, but also general cultural students studying in the field of training “state and municipal direction” is difficult. Consequently, this task should be solved by the public authorities themselves. For this, it seems, the necessary conditions were created such as a continuous professional development system, the core of which remains additional professional education. However, this system works quite inert. About one in three to four civil servants passes through it every year. Basically, these are short-term advanced training programs (for example, in 2018 — 97.1%) in a number of priority areas determined annually by the Ministry of Labor of Russia in coordination with the Administration of the President of the Russian Federation (47% in 2018). If we take into account that the share of students under the additional professional education programs in the field of IT each year is 12–15% of the total number of students in priority areas, this means that the share of civil servants involved in the digitalisation of government is increasing from 0.02 to 0 every year. 45% depending on the group of posts.

4. Conclusions

The need for government employees to acquire digital competencies and increase the level of digital competency is becoming an urgent topic of scientific research and socio-political discussions. The socio-economic and innovative development of the Russian Federation, the ongoing reform of public service and the public administration digitalization make the civil servants’ digital competencies development and the high level of their digital competency formation mandatory.

The study has shown the existence of ICT competencies that are included in the qualification requirements and recommended for use in the selection for public service positions, however, in applying these competencies there is a lack of universality among all levels and departments of the civil service. Also, the requirements do not include digital competencies necessary for working in the new digital environment of public administration within the framework of ensuring the functioning of e-government and the implementation of the national program “Digital Economy”.

The vocational education system also does not allow students studying in the direction of “state and municipal administration” to form appropriate digital competencies, since the existing digital services are too diverse in different departments, and even

have limited access to them. Vocational education organizations and their staff do not have access to most of these systems, and even to the methodological documentation for them. Accordingly, the formation of relevant digital competencies is difficult.

The additional professional education system of civil servants is not yet able to influence the formation of civil servants' digital competence in sufficient volume due to the inertia of its functioning.

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