Civil Servants Digital Competencies Formation in the New Economic Format Context

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Keywords: Civil Service, Digitalization, Digital Competencies, Professional Training, Digital Education, Digital Regulations.

Abstract: The article considers a new personnel professional training format in the a new stage of the economic activity automation and informatization context in the context of the public administration systems efficiency improving. The quality and professionalism of management at various levels is influenced by digital technologies, scientific and technological progress. It determines the manager competence in the dynamically changing conditions of professional activity. The economy key areas economy are rapidly developing on the basis of digital solutions, platforms and digital equipment, which present new demands on skills, education and the competencies universality. Professionalism in various types of socio-economic activities depends on increasing the labor intellectualization, skills in working with information and communication equipment, the ability to constantly progress and develop. A specialist in the civil service should receive a high-quality education that corresponds to the scientific and technological progress realities and the management functions digitalization.

1 INTRODUCTION

When selecting employees for the civil service, it is necessary to apply new approaches that provide for the digital skills availability, the ability to think broadly, and the availability of professional training in the field of computer science and communications.

Therefore, in the public administration transition to the digital model conditioned factors context, it is important to consider the content aspects of a competently oriented approach to training personnel for public administration. This approach supports the a management recruitment organization communication almost all over the world. For effective functioning, it is necessary to develop new methods and technologies that stimulate and develop staff.

The professional competencies development conditions formation consists of certain stages. First of all it is necessary to assess the current level of readiness and knowledge of a civil servant in order to have an idea of what working level he or she will be able to cope with in an innovative digital environment.

It is important to note that at present, in the Russian practice of civil service management, there is no single civil servants competence model approved by law. The professional standards formation is in constant development. There are no unified standards and methods for evaluating digital competencies when there is an obvious need for them in professional management activities.

2 RESEARCH METHODOLOGY

The research is based on the scientific papers and methods devoted to the civil servants digital competencies formation and evaluation problems content analysis, levels matrix design and digital competencies content.

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3   RESULTS OF RESEARCH

Domestic and foreign researchers unanimously confirm the need to gain knowledge of civil servants in the management system digitalization introduction framework, starting from the educational process first courses. There are many training manuals that include basic computer skills and training programs for modern innovative technologies (Dawes, 2019).

The competence approach content varies depending on the author's position of the researchers, there is no consensus in the scientific literature. The distinction between the competence concepts is correlated as the potential and real knowledge, skills that have been formed in a person in combination with professional and social qualities (Yudina, 2018).

A. A. Verbitsky distinguished these concepts from the objective and subjective working conditions point of view (Kupriyanovsky, Sukhomlin, and Dobrynin, 2017). Objective conditions are the employees rights and obligations, and subjective competencies represent their professional system of internal incentive elements, individual characteristics, psychological structure, knowledge, skills and abilities (Burov, Petrov, Shklyaruk and Sharov, 2018).

The researchers K. Kramer and A. Northrop, when predicting the knowledge about modern technologies level importance during working in government agencies, was the first to suggest introducing digital skills programs into the curriculum.

Sh. Dawes proposed the introduction of comprehensive didactic guides on IT strategy and control, while M. Brown and J. Brudney emphasized the strategic planning strengthening importance.

Russian scientists Danilova, O.V., Yaruskina E.T.; Bershadskaya, L.A., Chugunov, A.V. proposed a unified digital literacy methodology for civil servants, that is practice-oriented in nature (Brown, and Brudney, 2020). The information level and communication skills development is necessary for most civil servants on the basis of continuous self-education and professional training (Vasilyeva, 2018).

It is fair to define the direct relationship between the administrative management professional skills in the digital technologies field and the E-government platform development. The analysis identified the main reason for the low level of civil servants digital skills. It is the lack of nationally approved methods for determining the digital competencies composition and level, which affects the E-government platform work efficiency.   The higher the civil servants

competencies professional digital level is, the more effective the management activity is fulfilled, since the database of the E-Government platform is presented in an electronic format.

Thus, there is a contradictory situation where, on the one hand, high demands are placed on public officials to increase the level of digital competencies, and on the other hand, they are not provided with an elementary list of necessary competencies to work in government agencies in the new digital space (Brown and Brudney, 2020).

To determine the officials most relevant skills in working with digital technologies, scientific and theoretical approaches and international practice of employee competencies methodological assessment, qualification requirements for the work of civil servants at the legislative level were studied, and foreign and domestic practice of advanced training courses in digital technologies was considered (Figure 1).
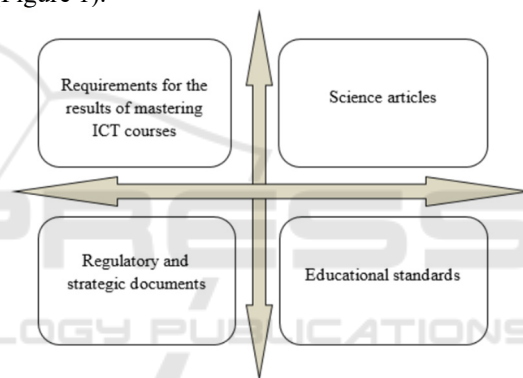

Figure 1: Sources of the formation of a competency model.

Competencies were classified into the digital competence matrix model as follows: technical level, communication level, and management level (Table 1).

Table 1: Civil servants digital competencies matrix model.

Level	Competencies	Competencies nature	Job categories			
			Managers	Assistants	Experts	Supporting specialists
Basic	to use ICTs (e-mail, social networks, and mobile media) to communicate and exchange information	communication	■	■	■	■
	to work in a team through information communication channels	communication	■	■	■	■
	to work in interdisciplinary groups and projects	communication	■	■	■	■
	to follow the rules for filling out documents when working on projects with ICT	technical	■	■	■	■
	to apply data analysis in public administration, including large amounts of information analysis	technical	■	■	■	
	to apply general knowledge of working with a personal computer (office software)	technical	■	■	■	■
	to use antivirus programs	technical	■	■	■	■
	to act in accordance with the transparency and accountability principles	technical	■	■	■	■
	to use different sources to find the necessary information for solving professional tasks	technical	■	■	■	
	to understand the state bodies informatization specifics in accordance with industry characteristics	technical	■	■	■	■
	to assume responsibility for the management of public resources, including information and technology assets	technical	■	■	■	■
	to understand the social networks use legal and regulatory aspects	technical	■	■	■	■
	to be able to apply the legislation on the protection of personal data during working process	management	■	■	■	
	to perform universal functions for the EP services provision to interested citizens and commercial organizations	management	■	■	■	■
	to have skills in working with security protocols	management	■	■	■	■
Advanced	to monitor changes in information systems and adapt to them professionally	management	■	■	■	
	to be able to establish communication with various categories of citizens and legal entities	communication	■	■	■	■
	to create processes based on information and communication technologies	technical	■	■	■	
	to actively use ICT to solve complex applied problems	technical	■	■	■	
	to coordinate the employees actions with the help of special software	management	■	■		
	to be able to systematize and verify the received data using ICT tools	management	■	■	■	
	to apply digital technologies in working with the public procurement and contracts system	management	■	■		
	to plan and control key processes based on information and communication technologies	management	■	■		
	managing risks and organizational changes associated with the use of ICT	management	■	■		
	to consistently manage all e-government components development, i.e. data, processes, regulatory framework, technical infrastructure and personnel	management	■	■		
	to work as a team in a multi-disciplinary data group empowered to develop new technologies	management	■	■	■	

	Continuation of table 1.					
	to participate in the feasibility of introducing new technologies and initiatives assessment in the service in the field of ICT					
	to realize the need for continuous professional development in the information and communication technologies field	management				
	to implement ICT in the personnel management system	management				
Special	To understand cloud technologies and their advantages	management				
	to participate in the public administration new technologies development	technical				
	to have professional computer skills (to work with specialized software)	technical				
	to manage the ICT projects implementation	technical				
	to know modeling on the IT technologies basis	management				
	to optimize business models in the e-government system	management				
	to simulate key administrative processes for the information analysis purpose	management				
	to solve the ICT implementation problems in various ways, including creative ones	management				
	to adapt digital innovations to their work functions and the service delivery technologies development	management				
	to identify the public administration systems innovative development reserves and design the strategic development directions	management				
	to formulate the information technology challenges faced by organizations and their impact on results	management				
	to understand how to hire, select, and manage IT consultants and staff	management				
		management				

The qualification requirements of the Ministry of Labor formed the matrix basis; they include the main qualification requirements in the field of information and communication skills for all employees. An additional set of increased requirements is allocated separately for senior personnel (Altukhova, 2018). The officials responsible for the digital technologies implementation in the relevant state bodies activities have a certain qualification level in the information technology field.

4 RESULTS AND DISCUSSION

For the public sector effective work in the new digital environment, highly qualified personnel is required. The state programs "Digital Economy of the Russian Federation", the Strategy of Scientific and Technological Development of the Russian Federation, the Strategy for the Development of the Information Society emphasize the need for human resources specialists with a number of relevant competencies (Anderson, Potočnik and Zhou, 2018; Kraemer and Northrop, 2019).

A civil servant must differentiate the incoming information and convey reliable information to the public. Official activities should be fully focused on the results related to the public good. In addition to the competencies necessary for effective activity in the digital management environment, it is also necessary to have the target settings that determine the civil servant value orientations (Figure 2).
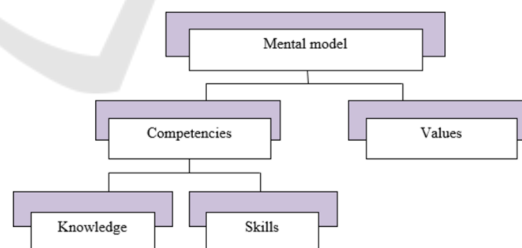
Figure 2: Hierarchical system of concepts "mental model" - "competencies".

Values, along with the acquired competencies, will influence the state manager mental model formation, will shape his or her worldview (Trostinskaya, Safonova, 2017). The key values that will help reduce the risk of decision making when managing a digital government platform are as follows:

1. The values of a public servant should promote the public needs.

2. Technologies can not empathize and express feelings, so the manager task is to assess the strategic consequences and risks of using automated systems in making decisions, whether they are applicable to a person from a moral point of view.

3. The use of digital technologies in public administration should be considered as the basis for the state harmonious development, people well-being and the creation of opportunities for each citizen potential realization, in order not to restrict the individual freedom, strengthening control over the information data confidentiality.

Higher education institutions should produce professionally trained specialists with the necessary competencies that will allow them to cope with work at the highest level in the new digital environment. Civil servants operating within the framework of E-government also need to constantly improve their skills and adapt to external transformations, including a set of competencies that also need to be transformed and changed, taking into account the state structure innovative technologies that differ from traditional domestic educational standards (Alkadry, Blessett and Patterson, 2019).

It is also worth noting that during the students survey, it turned out that the main motivation of students is to obtain a document on graduation from a higher educational institution and a high-paying job. Therefore, it is necessary to motivate students to constantly improve their knowledge and continue to learn. The development of creative thinking and analytical approaches to solving applied problems at various levels is facilitated by the training model, in which the manager organizes independent search activities, workshops, design, scientific conferences, business meetings, and so on.

In the educational process the future employer participating is also desirable because, having experience in the new digital environment, the current digital processes of economic transformation, the manager will be able to share a number of necessary knowledge that can be applied in practice. In this way, students will gain practical skills and up-to-date knowledge that will be useful in the future. The employer can participate in the curricula development, conduct seminars and master classes for students, partially conduct classroom classes, engage in design with students, and so on.

The most effective format of working with students is project activity, because during the project implementation students acquire invaluable knowledge and skills, as they independently find

ways to solve problematic tasks. To teach students the ability to use big data and specialized programs, it is necessary to introduce specialized disciplines into the educational process, to organize electives and additional advanced training courses (Anderson, Potočnik, and Zhou, 2018).

5 CONCLUSIONS

Public administration should be competitive, ensure the progressive strategic development of country, regions and industries in various directions. The forming digital competencies concept in the civil servants training should be reflected in the system of higher and professional education. In this regard, the digital competence basic elements definition is of scientific, theoretical and practical interest.

Digitalization of the public administrative environment is due to the country development strategic goals and objectives, global industry and services high growth rates, non-standard macroeconomic challenges and threats. Russia's transition to the digital economy under the federal program requires new professional qualities and competencies for the employees for the civil service selection. The analysis of scientific works shows that the digital competencies model is based on such elements as potential – knowledge – transformation into digital competencies mechanisms and conditions – digital competencies actualization in various spheres of public administration.

The digital competencies in the public administration system formation and development is necessary to ensure high management results in a society with growing digital literacy and the technologies introduction in all spheres of life. It is advisable to regulate different levels of digital competencies, depending on the position held: basic, advanced, special.

In order to improve the employees in the public administration system education, the following is necessary:

- The methodological support development with digital competencies list and description required for public positions, indicators of their assessment and impact on the certification results and career;
- Amendments to higher education programs related to the civil servants training in the digitalization areas in various fields of science and practice;

- Amendments to the legislation on public service in terms of requirements for the level of education and qualifications.

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