Digitalization of organizations: current issues, managerial challenges and socio-economic risks

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Abstract. The article explores issues related to the transition of modern organizations to digital technology. It is planned that by 2036 about 50% of jobs will be automated and, as a result, this will lead to a transformation of the labor market and a change in the socio-economic situation in the regions and in the country as a whole. The study provides data on the high degree of computerization of modern Russian organizations, which actually increases the overall involvement of staff in the organization’s activities and business efficiency. In order to effectively transition to digital technologies, modern organizations must adapt to changing conditions and conduct organizational training. The study suggested that in the digital era, it is necessary to use public-private partnership mechanisms that will allow the formation of knowledge bases in conjunction with educational and scientific institutions and business structures, which will quickly adapt to changing conditions and maintain a holistic organizational system of enterprises. At the end of the work, conclusions are drawn from the results of the study.

1. Introduction

The growing activation in the dissemination of digital technologies in the economy and society is manifested in the expansion of automation of processes associated with the management of the organization, and extends to all subsystems, including human resource management. According to the forecasts of the McKinsey Global Institute, by 2036 up to 50% of work processes will be automated in the world. This will lead to a significant dismissal of workers, a reduction in the number of jobs occupied mainly by personnel with an average qualification level. The distribution of software products that will unify and standardize labor practices and actions will ultimately contribute to an increase in the difference in wage levels, which will gradually contribute to increasing differentiation and discrimination in the labor market [1].

However, the historical experience of the development of society indicates that the industrial revolution not only leads to a reduction in jobs, but also to the emergence of new specialties,
respectively, the transformation of the labor market should be aimed at ensuring the mildest conditions for the transition and spread of new professions. Today, the desire to digitalize the economic space seems promising, progressive, but at the same time, one should not forget about the emerging risks and threats in the transition to new conditions for the development of the economy. Job cuts are only part of the problem, along with which possible business losses are due to poor integration into the innovative environment of the economy and society; data loss risks, since in this case significant and operational resources are required to ensure their safety; the emergence of conditions for a threat to security, which can lead to social tensions in the country, contribute to exacerbation of social problems, not only in connection with changes in the labor market, but also in the field of social and labor relations [2].

The introduction of information technology will significantly change the content of managerial functions in the organization, which necessitates a rethinking of management strategies and tactics, requires the study of new approaches to managing all types of resources, the most valuable of which is staff. In this case, the sphere of social and labor relations deserves special attention, in which transformations concern people with consciousness that require restructuring and adaptation to work in new conditions. Already today it is important to attempt to integrate the theory and practice of management, which, on the one hand, is necessary to enrich the decisions made in the field of management with scientific and methodological recommendations that allow for a systematic and integrated approach to managing the digital organizational environment, and on the other hand it will facilitate integration research resources and practical results into a single system, allowing to effectively carry out business processes in new conditions with the most greater efficiency. Thus, the spread of digitalization along with obvious advantages is fraught with risks and entails a number of negative consequences, which include: the inevitable transformation of relations and processes in the labor market, the possible mass dismissal of personnel who may not cope with the increasing demands on their personal and professional competencies for working in a digital environment, the emergence of new professions, which is associated with the need to teach people the knowledge, abilities and skills that will be required to successfully work to prevent the emergence of deficits in qualified workforce, and so on [3; 4].

2. Materials and methods
The purpose of the research, the results of which are presented in this scientific article, is to analyze the readiness of Russian organizations for the emerging digitalization of business processes and, on this basis, develop proposals for the use of management tools and techniques to overcome barriers to promoting automation and preparing answers to challenges related to these changes. To achieve this goal, the following tasks were resolved:

- analyze, based on statistical data, the degree of readiness of Russian organizations to digitalize their business;
- formulate systemic proposals aimed at preventing the negative consequences associated with the automation of business processes in the organization and determining a system of measures that will help adapt the organizational environment to future changes and innovative transformations.

The study used statistical, comparative, economic and logical methods.

3. Results
An analysis of publicly available official statistics confirms that currently the Russian Federation has a high proportion of organizations using personal computers (figure 1), although this share has a significant decrease from 2014 - 2015 with a slight increase and a subsequent slight decrease by 2017, the PC’s provision is more than 90%.
The use of computer technology in the organization helps to synchronize business processes provides unity in the implementation of management and control functions. Moreover, it is important to note that active automation is currently also being carried out in the field of personnel management, which allows us to involve an increasing number of organization employees in the organization’s affairs by increasing their awareness and the active use of software products in the implementation of adaptation, training, development and evaluation functions staff [5]. The introduction of information and communication technologies allows us to increase the efficiency and quality of managerial decisions made in the field of human capital management, to preserve and increase its value in companies, contributes to an increase in employee involvement in the organization’s affairs, ensuring cohesion and coordination of their actions, and high efficiency of collaboration [6].

An integrated approach to the management of automation processes through the creation of a single automated information system that includes the operation of various modules and subsystems, the implementation of which is subordinate to the fulfillment of a unified strategy for the introduction of personnel technologies, is observed in modern foreign personnel management practice [7]. However, it is important to emphasize that in the Russian practice of modern organizations, an integrated approach is not always used in the automation of business processes. Thus, although the coverage of organizations using the ERP-systems is growing year by year, it still remains at a rather low level (figure 2). This is due, first of all, to the fact that such complex systems are expensive and basically large corporations can afford them.

Figure 1. Percentage of organizations using personal computers in the total number of organizations surveyed, in percent [8].

Figure 2. Percentage of organizations using ERP-systems in the total number of organizations surveyed, in percent [8].

However, the reason for this is not only the size of the organization. So, according to the analytical review of Digital IQ, prepared by PwC, 63% of the surveyed heads of business departments of companies from all over the world believe that the lack of specialists with the necessary qualifications
is also a significant barrier to the digitalization of the organization. Training personnel to work in a new format of relations in the organization, taking into account the changed environment, is one of the most important tasks. Along with updating this goal, the readiness of employees to adapt to work in new conditions is a particular importance. Given the fact that the staff of the organization’s employees is heterogeneous, as indicated by differences in age, level of training, and perceptual characteristics caused by socio-psychological attitudes of workers of various ages, one of the most important tasks is the development of both universal and specialized training technologies and tools in which the above-mentioned aspects and problems will be reflected.

The practice of using the latest technologies and working methods in a digital environment actualizes the processes of socio-psychological support of personnel. The need to conduct research in order to clarify people's attitudes to a new format of relationships in the virtual environment of an organization is caused by the desire to study their readiness to perform their professional functions in modern conditions. The proliferation of electronic resources and the increasing need for their use grow the importance of studying the attitude of personnel to new conditions, as well as the need to develop a system of measures by the organization that would ensure the most optimal development of new technologies in terms of time [10].

In addition to the foregoing, we note that among the respondents from Russia, the most common barriers, in addition to the lack of specialists with the necessary qualifications, the lack of integration between new and existing technologies and data, insufficient implementation of processes, existing technological inconsistencies with previously used technologies, and often and the use of outdated technologies are detected. There is also a lack of close communication between the implemented information and communication technologies and business processes in the organization, as well as close relationship with the strategic decisions made [11].

Thus, to analyze the data presented in order to provide scalable digitalization, it is necessary to conduct serious organizational preparation and form a system for adapting your organizational environment. Currently, more than 7% of organizations do not use computers, and only over 12% use complex information solutions, and the need for highly qualified personnel, which can solve tasks with guarantee, is detected [12; 13].

4. Discussion
To ensure the effective implementation of digitalization programs, in our opinion, first of all, it is necessary to carry out large-scale transformations at all levels of the state and society. In this regard, it is most advisable to use public-private partnership instruments, which is understood as a set of forms of medium- and long-term interaction between the state and business to solve socially significant problems on mutually beneficial conditions. In the digital age, this should primarily be associated with the creation of a single knowledge base for educational organizations and high-tech enterprises, as well as the accumulation and dissemination of best practices in the organizational support of research activities. Thus, it will be possible to unite the intellectual capital of state educational institutions of higher education and various business structures participating in public-private partnership programs as co-founders of high-tech enterprises, customers and consumers of innovative products, as well as educational services and research (figure 3).

In general, the development of public-private partnerships in the field of digitalization, according to the authors, will give universities the following advantages:

- increase competitiveness and the ability to respond quickly to the emergence of research grants, contracts and business proposals;
- reduce the time of research work;
- minimize the dependence of research projects on organizational and administrative resources;
- provide support for interdisciplinary research;
- use the experience of past developments and commercial offers;
- increase the effectiveness of external and internal services of innovation infrastructure;
- reduce administrative costs.

The implementation of an integrated system of measures should also follow at the level of organizations, which in the new conditions should concentrate their efforts on understanding the changes and their readiness for them [14; 15]. The development of strategic development plans for organizations should be carried out on the basis of the reallocation of resources to all areas of activity, taking into account the introduction of digital technologies, which actualizes the change in many functions in terms of monitoring and evaluating the flow of business processes. It is especially important to take into account the risks when introducing automation in personnel processes, which is associated with the willingness of people to work in an automated and virtual space.

**Figure 3.** The model of functioning of public-private partnerships based on knowledge management.

### 5. Conclusion

Thus, the presented study allowed the authors to identify problems:

- The spread of digital technologies in all sectors of the economy and the life spheres of society actualizes the study of the degree of readiness and susceptibility to changes, which involves monitoring the state and identifying problems and difficulties along the path of innovative transformations associated with automation.
- Transformations in the labor market associated with job cuts, the emergence of new professions, and changes in staff competencies necessitate the development and adoption of comprehensive measures aimed at exploring the possible consequences associated with automation, as well as the adoption of programs to educate people about new work skills on this basis, and training programs should be advanced in nature. Under these conditions, the position of business structures should be active, since the organizational environment in the first place may experience difficulties in that it will not be provided in a timely manner with personnel of the appropriate qualifications that meet modern requirements.
- The practice of introducing public-private partnerships should strengthen the medium and long-term interaction between the state and business to solve socially significant problems on mutually beneficial conditions. During the period of active introduction of digital technologies, it is especially important to create a unified knowledge base for educational organizations and high-tech organizations, which will contribute to the accumulation and dissemination of best practices and will provide technical and economic support for the implementation of new forms of business and staff.
- It is important for modern organizations during the period of introducing automation into management to develop a progressive personnel policy that would include a system of measures to support employees during organizational changes related to digitalization and
aimed at implementing adaptive practices, advanced training, developing motivation, and setting objective assessment criteria and the direction of personnel development, which would make it possible to obtain high results in the shortest possible time due to the use of vainer new technologies.

- Digitalization of the economy and its spread to all spheres of economic activity is associated with the emergence of problems arising during the period of transformations and changes, which certainly must be considered as challenges to the existing management system, the willingness of organizations to prevent the emergence of possible risks will ensure its sustainable development and will increase the expected efficiency and effectiveness in connected with digitalization, which provides undeniable advantages and increased competitiveness.

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