

THE RELEVANCE OF IMPLEMENTING THE EMPLOYEE DIGITAL PROFILE AS AN ELEMENT OF THE EMPLOYER'S HR POLICY**

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The subject. Economic, technological and geopolitical changes are leading to the digitalization of virtually all structures of the labor market: from the process of production and human resources management to the organization of the workplace. The use of new digital technologies makes it possible to give up routine human labor, contribute to improving the quality of working life of employees and employers, and increase industrial production, which means economic growth of the state. Thus, in accordance with the National Security Strategy, approved by the Decree of the President of the Russian Federation dated July 2, 2021 No. 400, the situation in the production industry is one of the key criteria of Russia's competitiveness and contributes to the strengthening of the state's defense capability. Ensuring Russia's independence and competitiveness was also announced to be the main goal of the Strategy for Scientific and Technological Development of the Russian Federation, approved by Presidential Decree No. 642 dated December 1, 2016. On the other hand, the use of new technologies may have time-delayed risks. The most important risk today is the increasing release of labor force and mass cuts of jobs requiring average qualifications, as well as dismissal of employees due to failure to pass tests because of the lack of skills in digital tools.

The purpose of the study was to substantiate the urgent character of the implementation of digital profile programs as a part of the employer's personnel policy to achieve the objectives set in the National Security Strategy of the Russian Federation dated 2021.

The methodology of comprehensive research, including methods of document analysis, comparative analysis, secondary use of sociological and economic data were used.

Main results. The study shows that the use of the employee digital profile programs will allow the employer to identify weaknesses in any of the employee's skills well in advance, and to pave individual learning pathway, based on his/her preferences, hobbies and intentions, in order to upgrade the skills. It is deemed that the competence of employees is a factor for transfer of any business to digitalization. This policy of the employer will allow to cover for low-quality job cut and give personnel the minimum knowledge that makes it possible to acquire information on modern information technologies, be able to use it to solve the set problems and have necessary skills and technology, which will facilitate solution of the problems. Ultimately, these are tools to achieve the tasks set by the state in the framework of the state's defensive capability and competitiveness. At the same time, the lack of normative methodologies for the creation and operation of employee digital profiles and comprehensive scientific research predetermine increasing risks of violation of personal data of employees, privacy of employees, as well as discrimination in making legally significant decisions. Today there are no normative standards of data processing and system interaction, which leads to the diminution of guarantees of employees' rights in terms of respect for personal data and other data in terms of classified information.

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1. Introduction.

Digital transformation, automation, implementation of new digital technologies in all spheres of the economy, all this naturally leads to an increase in labor productivity, leveling of routine work, improved quality of work life in general. Thus, the National Security Strategy of the Russian Federation, approved by the Decree of the President of the Russian Federation dated 02.07.2021 # 400 proclaimed the need to build up the defense potential of the country under transition to a new technological paradigm. Unfortunately, the flip side of the ongoing processes is the inevitable reduction of jobs requiring low qualifications as well as the need for a new profile of employee competencies that have not only professional skills and digital literacy, but also critical thinking skills, emotional intelligence, creative competencies and the ability to work in a team of technically challenging professions. These skills are referred to as transversal skills related to creative, entrepreneurial, flexible and open-minded thinking. The importance of unlocking human potential for technological leadership is also emphasized in the National Security Strategy.

In order to address these challenges, special attention should be paid to fundamental research of interdisciplinary nature that allow for the implementation of a new system of digital management. Digital HR management is a new platform for improving personnel performance. For example, the use of knowledge at the intersection of economics and digital HR management allows us to talk about the phenomenon of employment multiplier of high-tech industries, the possibility of creating new low-tech jobs that are complementary in nature. The key element of the digital management system is a digital “employee profile”, which is a digital twin of an employee and contains a set of analytical interfaces that allow predicting and managing the tracks of his/her development. The use of digital employee profile programs will allow employers to identify gaps in any of the employee's competencies in advance and form an individual learning pathway, based on the employee's preferences, hobbies and intentions, for the purpose of professional development.

2. Literature Review.

The impact of digitalization of the economy on social and labor relations has been attracting interest of scientists and practitioners for more than 10 years. At the same time, all studies in the field of influence on the legal regulation of social and labor relations can be roughly arranged into three groups. The first group of studies is devoted to the identification of the best practices in the use of digital technologies in regulation of labor and employment. Thus, the works by A.V. Serova, O.V. Scherbakova identify the best practices of using digital technologies in employment with a given employer as well as legal problems of their use in the context of proper normative regulation [1, 2]. Golovina S.Y., Zaitseva L.V. studied the results of the experiment on implementation of electronic HR document management system in some regions of the Russian Federation, and therefore it brought them to the conclusion about positive dynamics of the implementation of this system in the practice of labor relations regulation, provided the establishment of general rules of interaction between employer and employee in the digital environment at the federal level, legalization of electronic documents exchange as a way of labor management and performance of job function by the employee [3]. Scientists in Russia and abroad studied the possibilities of using digital technologies in the dynamics of improving the quality of work life of employees, including through the improvement of labor protection: the introduction of special “smart” devices and technologies that provide continuous monitoring of the deviation of the employee's health at early stages [4, 5].

The second group of studies is devoted to the risks that the sphere of social and labor relations is exposed to under the influence of digitalization: they substantiate changes in employment types under formation of the “gig-economy” [6], place the emphasis on the threats to the privacy of workers in the context of the possibility of tracking workers through the implementation of “smart” technologies and video surveillance cameras [7, 8]; study the transformation of the workplace in the context of underemployment [9, 10]; state the emergence of new occupational risks associated with technostress

[11]; the need to learn new technologies, growth of emotional stress [12], etc.

Finally, the third group of studies focuses on deferred action risks. From economic point of view, implementation of new digital technologies reduces the company's costs. It increases production, efficiency and productivity. At the same time, it has two important and irreversible effects.

The first one is the need for employees to acquire new knowledge and skills, continuous professional development, lifelong learning, ability to use new software, new automated, robotic and technological processes [13, p.200]. At the same time, the burden of the above risks lies on both sides of labor relations, as it requires employers to pay the cost of personnel training, and manifests itself in both individual and collective labor relations [14, p. 400].

The technological changes already allow us to see that some workers in the market have the necessary skills and can adapt more easily to the labor market. On the contrary, others lack the necessary skills [15]. Acquired knowledge, skills and acquired qualities allow people to perform tasks or activities successfully and systematically [16]. Skills and their development are particularly important for the country and its people to adapt and work successfully in an ever-changing world and labor market. Those who acquire strong skills are more innovative, efficient, confident and have a higher quality of life.

The second important effect of increasing digitalization is the demand for new occupations and skills (metacompetencies) and no need for routine human labor [17, 18]. In addition, the automation of a large part of employees' work poses a challenge as companies lack qualified employees with the relevant skills to implement and maintain the latest technologies in a company. With the growing popularity and development of artificial intelligence, companies more often choose and use this tool in their business, which means that there are more and more new jobs in IT, robotics and industry.

There are studies in academic literature about barriers to managing the workforce engaged in knowledge acquisition and boundary pushing

[19]. However, the literature does not clarify how future employees can prepare themselves to meet the challenges of having to learn new competencies. For example, a study by E. Enkel [20, p.1170] describes various opportunities and processes at the employer's level for adopting innovative technologies; their study does not suggest how to develop the capabilities of the employees themselves. W. Vanhaverbeke and M. Cloudt [21, p.260] pointed out the limited nature of research on management practices as a basis for the development of entrepreneurial education.

In accordance with forecasts, digitalization will grow in the near future, which means that problems will grow as well. For example, according to statistics from the USA and some European countries, it is expected that about 40% of jobs will be automated in the coming decades [22, p.190; 23, p.210; 24, p.260; 25].

3. Discussion.

As a solution to the problem of escalation of workers' professional competencies under technological transition to digital tools, the scientific literature suggested the idea of forming a digital employee profile as *a way of automated processing of information about him/her: position, performance indicators, training, career development, rewards, professional communications, hobbies, interest in tasks, job scheduler workload, frequently visited pages on corporate resources, social contacts, etc.* [26].

In general, the idea of creating a digital profile of an employee is not innovative. The concept of "digital twin" was first used in industry for strictly defined and clear purposes. A digital twin is a virtual representation of a physical product that is used as a benchmark to assess, diagnose, optimize and control the performance characteristics of products before starting their mass production in accordance with global standards. Current research on the subject examines the nature of security, including legal security, of these digital twins, not least because it is suggested that the digital twin should be developed first and then followed by its physical counterpart [27].

Key criteria for collecting information about an employee may include:

- assessing the role of internal communication of personnel, which is related to employee interaction through social media technologies in digital economy [28];
- information available online in social profiles of potential team members [28];
- employee performance criteria by certain markers [29, p.265].

Use of digital profile programs in the field of HR management is able to mitigate the risks of digital transformation of modern society, which are of delayed nature.

The most important risk today is escalating release of workforce and mass reduction in the number of jobs requiring average qualifications as well as dismissal of employees because of their failure to pass certification due to the lack of skills in the use of digital tools. It is obvious that the transition to a new technological paradigm requires changes in the competencies, skills and abilities of employees and naturally leads to the formation of a new profile of competencies. Education, training, retraining and professional development of workers in all spheres of the economy is one of the most urgent problems to be solved when adapting industries to digital information, especially in those industries, where human resource and computer-human relations are of paramount importance. The trend for the coming years is for humans and machines to collaborate and evolve, capitalizing on each other's strengths to develop an industrial ecosystem that would be more efficient, productive and sustainable.

It is presumed that employee competence is a factor in the transition of any business entity to digitalization. However, digital transformation should not be limited to employees' skills in the use of digital tools. It should result in new metacompetencies of employees, at least these include critical thinking skills, emotional intelligence, creative competencies and teamwork skills in technically challenging professions, i.e. more transversal skills related to creative, entrepreneurial, flexible and open-minded thinking. Thus, we can speak not just about a set of new competences, but about a whole system of competence profile based on the need for the state to achieve technological leadership.

The solution to the problem of forming a new competence profile of employees should be considered in the paradigm of the National Security Strategy of the Russian Federation. On the basis of this Strategy, it is possible to define the high quality of human potential as one of the main factors in maintaining the state leadership in the world arena. It is assumed that the formation of the list of metacompetencies should be based on the concept of achieving technological leadership of the state in order to make transition to a new technological paradigm. New competencies, skills and knowledge of employees should have the features of an integral system built and operating according to strictly defined and clear principles. At the same time, the fact of personalized approach to the formation of an employee's educational pathway is important, taking into account the employee's physical and emotional intelligence, his/her interest and motivation. This is primarily due to the need to implement a new paradigm of workers' competencies without deviating from the constitutional order of fundamental rights protection.

Thus, the possibility of using digital profile determines important effects on management and politics. On the basis of the digital profile programs, employers can identify and support employees who are at significant risk of losing their jobs due to lack of necessary competencies by tracking their skills in the system, i.e. by examining employees' digital twins in terms of skills, abilities and knowledge, and then offering to have necessary training well in advance.

There are other obvious advantages of using digital profile programs for HR management. Automated processes allow developing and training an employee within the employer without attracting the employment service and without searching for a new job; to save financial resources of the state spent on improving or changing the qualifications of job seekers at the employment office; to identify the preferences and aptitudes of an employee to one or another area of his/her labor duties and to direct development of these competencies in a more creative way; to save the employer's time and financial resources spent on training all employees in specific skills and knowledge without taking into account physical and emotional intelligence of

employees, facilitates the search for talents and new skills and aptitudes of employees that the employer was unaware of in the course of work; receive quick feedback and suggestions from employees on production and management issues; free HR staff from their routine work of collecting information about each employee by reviewing their social activity and profiles, etc.

Analysis of the best practices of the digital employee profile structure in various industries is presented in the framework of scientific research. For example, in the system of the Federal Customs Service, special attention is paid to the range of competencies of an FCS employee as a tool for assessing the effectiveness of personnel performance and compliance with the benchmarks of positions: quantitative indicators (number of detected offenses per employee, number of customs declarations filed per employee or position, etc.) and qualitative indicators [30, p.30].

Development and application of a digital management system can also be considered in a broader sense as an instrument of public policy in the field of employment and provision of employment to citizens. Thus, the maintenance of a digital profile, starting with schoolchildren and students, can be nothing but a clear and algorithmic filling of the base of a person's achievements due to internal and external factors, aimed at building an individual pathway of his/her professional development in future [31, p.180]. According to researchers, this portfolio will demonstrate not only professional competencies, but also the ability to self-organization, communication and thinking skills of a person. Thus, the digital portfolio should become an element of a unified education strategy that allows connecting existing competencies, knowledge and skills of a person at an early age with the personnel policy pursued by the state.

For example, it is obvious that the digitalization of industries naturally leads to long-term growth in high-tech employment. However, in some regions of the country, outside of metropolitan cities, this situation may lead to understaffing of qualified employees with relevant skills to implement and maintain the latest technologies in a company. There is a growing

demand for newly qualified cybersecurity and data analytics professionals in both central and remote regions of our great country. With the growing popularity and development of artificial intelligence, companies more often choose and use this tool in their business, which means more new jobs in IT, robotics, and industry. The problem of employment and attracting young specialists to remote regions and rural areas is becoming more urgent.

At the same time, digital management system proposes to consider this problem in the context of employment multiplier of high-tech jobs. Recent modern research let us say that the emergence of one high-tech job leads to the emergence of additional five low-tech jobs. The employment multiplier is a coefficient that shows how many times aggregate employment will exceed the increase in primary employment in the industries where the increase in investment was seen. The greater expansion of aggregate employment relative to investment industries is based on the fact that additional workers, whose jobs were created due to additional investment, generate income. Thus, there is a convergent relationship between the variables under study, highly skilled professionals and workers.

Based on this information, we can conclude that both high-tech and low-tech jobs in IT, robotics and industry are in demand in the long run, especially in remote and rural areas, which may influence the choice of educational institution or regions of residence after graduation. Efficient application of the employment multiplier as well as formation of a new system of competencies, skills and knowledge of employees becomes possible only in case of a new approach to human resources management, i.e. introduction of so-called digital HR management.

Today several foreign and Russian developers offer digital profile programs that are installed at major employers of our state as some Beta version. However, at legislation level no general principles of data collection and processing have been established, no operational models of data management and system interaction have been described, no legal basis for the operation of these programs has been defined; the issue of legality of collecting personal data of employees has not been

resolved, the issue of determining a storage place for large amounts of data has not been resolved, the sources of collecting information about employees have not been determined, the issue of delimitation of private and work life of employees has not been studied, the limits of interference in the private life of employees have not been set, there are no operation principles that could protect employees from discrimination on the grounds of beliefs, gender, religion, etc. All of the above significantly increases the risks of violation of constitutional rights and freedoms of a person. In other words, the negative effect consisting in discrimination against workers and violating the right to privacy and personal data protection may negate the value of digital profiles in future.

Absence of normative methods for creation and operation of digital profiles of employees and comprehensive scientific research create prerequisites for increasing risks of violation of personal data of employees, privacy of employees as well as discrimination when making legally significant decisions. Today, there are no normative standards of data processing and system interaction, which leads to the diminution of the guarantees of employees' rights in terms of respect for personal data and other data in terms of classified information. The above-mentioned is confirmed by the fact that the current level of development and application of digital technologies by employers poses the task of giving the personnel minimum knowledge, which allows them to perceive information about modern information technologies, to be able to use it to solve the tasks and to have necessary skills and technologies, which will simplify the solution of the tasks, but at the same time will ensure the legally enshrined level of rights and guarantees of employees.

Thus, the development of a profile of competencies required in modern society should inevitably be accompanied by development of methodological recommendations on data management at the local level by describing the basic principles of data processing, defining the main participants, their rights and obligations in the interaction of information systems. It seems that the methodological recommendations should describe universal schemes and methods of

systems interaction taking into account the current labor legislation, allowing employers at the local level to take into account the peculiarities, conditions and nature of their activities.

At the same time, development of innovative software products in the context of digital management under deglobalization of modern societies should be provided mainly by public investment with the subsidiary application of private capital. Consequently, the directions of public policy in the field of human potential management should take into account the importance of developing and providing a legislative framework for the fundamental principles of forming a digital profile of an employee as well as outlining the state regulation of this issue.

4. Conclusion.

Digital transformation, automation, introduction of new digital technologies in all spheres of the economy, all this naturally leads to an increase in labor productivity, leveling of routine work, improved quality of work life in general. Unfortunately, the flip side of the ongoing processes is the inevitable reduction of jobs requiring low qualifications as well as the need for a new profile of employee competencies that have not only professional skills and digital literacy, but also critical thinking skills, emotional intelligence, creative competencies and the ability to work in a team of technically challenging professions. In order to address these challenges, special attention should be paid to fundamental research of interdisciplinary nature that allow for the implementation of a new digital management system. The key element of the digital management system is a digital "employee profile", which is a digital twin of the employee and contains a set of analytical interfaces that allow predicting and managing the employee's development tracks. Key criteria for collecting information about an employee may include, but are not limited to: - assessing the role of internal communication of personnel, which is related to employee interaction through social media technologies in digital economy; - information available online in social profiles of potential team members; employee performance criteria by certain markers.

Use of digital profile programs in the field of HR management is able to mitigate the risks of digital transformation of modern society, which are of a delayed nature, and these are the release of workforce and a mass reduction in the number of jobs requiring average qualifications as well as the dismissal of employees because of their failure to pass certification due to lack of skills in the use of digital tools.

The solution to the problem of forming a new profile of competencies among employees should be considered in the paradigm of the National Security Strategy of the Russian Federation. On the basis of this Strategy, it is possible to define the high quality of human potential as one of the main factors in maintaining the leadership of the state in the world arena. The possibility of using a digital profile determines important effects on management and politics. On the basis of the digital profile programs, employers can identify and support employees who are at significant risk of losing their jobs due to lack of necessary competencies by tracking their skills in the system, i.e. by examining employees' digital twins in terms of skills, abilities and knowledge, and then offering to have necessary training well in advance. There are other obvious advantages of using digital profile programs for HR management. Automated processes allow developing and training an employee within the employer without including the employment service and without looking for a new job; etc.

Lack of normative methodologies for the creation and operation of digital profiles of employees and absence of a comprehensive scientific study create prerequisites for increasing risks of violation of personal data, privacy of employees as well as discrimination in making legally significant decisions.

Development of a profile of competencies much in demand in modern society should inevitably be accompanied by development of methodological recommendations on data management at the local level by describing the basic principles of data processing, defining the main participants, their rights and obligations in the interaction of information systems. At the same time, development of innovative software

products in the context of digital management under deglobalization of modern societies should be provided mainly by public investment with subsidiary application of private capital.

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