

# Modern technologies of personnel management in the conditions of digital transformation

Lalita Idigova<sup>1,2,\*</sup>, Svetlana Plis<sup>3</sup>, and Huseyn Chaplaev<sup>4</sup>

<sup>1</sup> Chechen State University named after A.A. Kadyrov, 32, Aslanbek Sheripov Str., Grozny, 364024, Russian Federation

<sup>2</sup> Kh. Ibragimov Complex Institute of the Russian Academy of Sciences, 21a, Staropromyslovskoe highway, Grozny, 364051, Chechen Republic, Russian Federation

<sup>3</sup> Russian State University of Oil and Gas named after I.M. Gubkin, bld. 1, 65, Leninsky Ave., Moscow, 119991, Russian Federation

<sup>4</sup> Chechen State Pedagogical University, 62, Kh. Isaev Ave., Grozny, 364068, Russian Federation

**Abstract.** The paper considers modern technologies of personnel management necessary for the digital economy. Nowadays, in the process of transforming HR approaches due to the pandemic and economic situations, most companies in general and HR management in particular are faced with an acute question: what to do with the HR strategy. The study is aimed at identifying relevant areas of digitalization of the HR management process in a business organization. The paper authors identify basic reasons hindering the transition of personnel management to digital technologies, as well as opportunities for their further solution. The authors believe that the digitalization process is irreversible in modern conditions and enterprises should pay attention to this significant aspect. Most business leaders are not ready for the introduction of digital technologies and believe that they may negatively affect the employment level. On the contrary, another part of managers is introducing digital technologies, trying to improve the skills of employees in order to meet labor market standards. The authors conclude that a large role in the efficient formation of personnel management is the presence of personnel, formed from specialists with a psychological education and with the ability to solve mathematical tasks. The authors believe that the demand for such specialists will increase every year. Besides, high-quality personnel management is becoming a strategic center for the enterprise development, which the corporate brand formation depends on. Most enterprises prefer to do business online; it becomes a trigger for the formation of new approaches in the field of the company personnel management, which has always been a complicated and multifaceted phenomenon.

## 1 Introduction

HR management technologies are defined as a way to manage the quantitative and qualitative characteristics of employees in order to achieve the goals of both the entire company and individual employees. One of the highest priority and essential tasks in the personnel management system is to help the organization achieve its aims by increasing the staff productivity.

In an era of such global and rapid changes, business cannot work according to the old models. Modern business organizations face the urgent task of digitalizing absolutely all business processes, including the human resource management system [1]. This is essential for business organizations to maintain a stable competitive position.

The chosen topic is of practical relevance, since it allows analyzing the personnel management system, diagnosing the company's personnel potential in order to improve its personnel policy in the context of the country's economy digitalization.

The relevance of the chosen research topic is conditioned by the need to identify the fundamental problems of digitalization of personnel management technologies and develop ways to solve them.

The purpose of the study is to monitor the issues and prospects of digitalization in the personnel management system in modern conditions. It is required to solve a number of objectives to achieve the purpose:

- clarify the basic problems hindering the digitalization process in the personnel management system;
- assess the application level of digital technologies for the development of digital skills by the enterprise personnel;
- analyze the application level of digital technologies in HR in personnel management.

The methodological basis of the paper is the principles and methods of transforming objectives in the transition process of personnel management to the digital environment, the main levels of benefits from digitalization are identified, their characteristics are presented.

A complex of transformations in personnel management, including a change in the management structure based on digital technologies, should be understood as the digital transformation of personnel management.

Most researchers point to a lack of personnel, financial resources and a lack of comprehension of the digital transformation effects as barriers to digital transformation. Electronic HR management serves as an efficient tool for

\* Corresponding author: [mail@chesu.ru](mailto:mail@chesu.ru)

the implementation of relevant corporate functions using Internet resources [2].

A prerequisite for digital transformations is, as a rule, a system of certain factors formed by the external and internal environment of organizations, as well as available opportunities and resources.

Providing the firm with qualified personnel begins to play the greatest role as new technologies develop. Besides, it is impossible to staff all divisions of the company in a timely manner without the development and implementation of competent personnel policy. This is conditioned by the fact that in modern conditions, the greatest value for organizations is not fixed assets, but intangible elements, that is, the applied management methods and the personnel creative potential.

## 2 Materials and Methods

Research methods are: content analysis of scientific publications; expert survey. The digitalization significance in human resource management is that digitalization should be aimed not only at automating and improving work and production processes, but also at enhancing the work quality of each employee. When a company applies contemporary digital technologies, it is much easier and more interesting for an employee to carry out their work activities, which motivates them to develop within the enterprise.

The management quality directly affects the success strategy of the enterprise at the present stage. An integral feature of personnel management is the formation and maintenance of the enterprise organizational culture. It should be noted that the personnel potential is an integral element of the enterprise personnel policy. The personnel policy essence of an enterprise can be expressed through a system of norms and rules that direct human resources in parallel with the company strategy. Staff policy directs the personnel potential of the organization in accordance with the strategy and development aims of the organization itself. Besides, the personnel service tasks depend on the company development stage.

Production processes are inevitably accompanied by staffing. Therefore, personnel management seeks to provide the personnel resource that is necessary for the efficient functioning of the company in a particular period of time. It is required to know the goals, norms and methods for implementing personnel activities to build an adequate personnel policy. Moreover, the basic stages of building the company personnel policy involve: rationing, programming and monitoring of personnel [3].

The main goal of personnel policy is to ensure the optimal balance of renewal processes, as well as maintaining the qualitative and numerical composition of personnel based on the needs of the company, the labor market and the

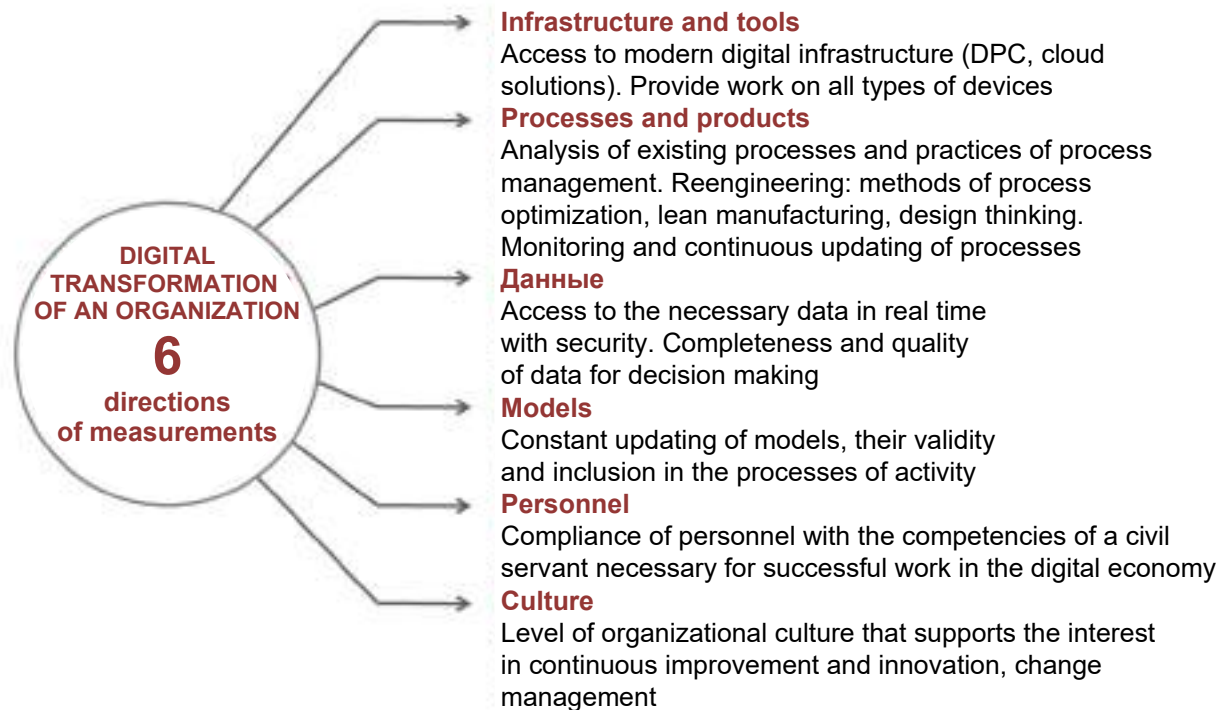
requirements of current legislation. As a management tool, personnel policy is an organizing activity that aims to combine the efforts of the company's employees in solving a specific issue. Personnel policy should be dealt with all levels of management, namely: the personnel department, heads of departments and senior management. It can be noted that rational personnel policy is based on the comprehension that social development, production and education of people is a single process. Accounting social characteristics of the management object, as well as their impact on the economic performance of the company, becomes the leading task of personnel management.

In a broad sense, human resources potential is defined as the ability and skill of employees that can be used to improve the efficiency of a company in order to make a profit and achieve a social effect. Speaking about the personnel potential as a source of qualitative changes in the company economic development, it can be judged that the evolution of this category expresses the content of the entire economic system, the basis of which lies in the employee - the main productive force. The personnel potential characterizes the total worker not only as a participant in production, but also as the beginning of all stages of the reproduction process. Only an employee is a carrier of social needs, performs the function of goal setting, and also objectively generates and subjectively sets tactical and strategic goals for the economy development as a whole [4].

Therefore, personnel potential can be characterized as a generalizing characteristic of total abilities and capabilities of employees of an organization who have certain qualifications and have undergone preliminary professional training, obtain special knowledge and work skills, as well as work experience in a particular field. Moreover, they are able to effectively fulfill their labor duties and achieve certain outcomes of economic activity.

It can be concluded that personnel policy is a kind of system of principles, goals, forms, criteria and methods of working with personnel, which applies to every employee. The personnel potential is an integral element of the personnel policy. It is significant to comprehend that the personnel potential is a socio-economic category, as it covers the economic aspects of the company's activities, and is also directly related to the social status of personnel.

Global digitalization has changed not only the economic but also social vision of the world. The digital age is defined by continuous streams of data containing information, knowledge, ideas, and innovations. On the one hand, the main resources of digital transformation are the technologies and systems necessary for its implementation, on the other hand, people with digital competencies. In this regard, there is a need to create such educational programs and individual learning paths that consider the requirements of the emerging digital society (Fig. 1).



**Fig. 1.** Digitalization scheme considering six directions of the organization transformation, including the training level of managerial personnel – a significant direction.

The modern way of the world economy is characterized by the transition to digitalization of human life processes. Despite the criticism of many scientists and specialists, this process is irreversible and involves new countries, penetrates into every activity of modern man. The efficiency of digital HR management is a qualitative characteristic of digitalization, reflecting the level of integration of digital practices into the core activities of companies, the ease of their use to solve routine tasks, and the “strength” of digital tools [3]. For instance, only one aspect of personnel management can be digitalized in a company, but the rent from the technology introduction is significant. Russian business has relatively recently embarked on the digitalization of HRM, which so far has more quantitative (coverage) than qualitative (effectiveness) characteristics, although extensive experience has already been accumulated in many foreign countries. It should be noted that the listed tools of the digital economy play a decisive role in business management in modern world [5]

The basic issues in the field of personnel management digitalization are: the lack of specialists with digital skills, the low level of personnel management automation.

Companies are eager to improve the skills of their personnel in a competitive environment, to obtain supplementary knowledge and master innovative technologies for the strategic development of entrepreneurial activities. An enterprise's workforce should perform tasks at the highest level in order to remain competitive, which requires further skill improvement in the digital world on the job. There is a need for online education, which, accordingly, gives rise to many online universities and various courses offering advanced training online [6].

Distance learning has a number of advantages, primarily related to the possibility of mastering programs from any geographical point in the world with the availability of the

Internet. The training takes place on a special educational platform, where the student has the opportunity to listen to lectures, do homework and send it to the teacher for verification, who answers the student’s questions online and assesses the completed assignment.

One of the well-known online universities that provide distance learning opportunities is Skillbox Online University, which is one of the leading online universities in the field of mastering digital skills-oriented professions. The Skillbox online university offers careers in internet marketing, programming, design, game development, and others. In 2019, the online university became the winner of the Runet in the nomination of “Technology and Innovation”, and a year earlier – “Education and Human Resources.”

In the context of the COVID-19 pandemic, most companies have actively adopted digital technologies in order to effectively operate enterprises and solve work issues. According to various estimates, 44 % of enterprises plan to apply a new management model in their activities in the near future, and 41 % of enterprises plan to automate the operational processes of personnel management.

Russian companies lag behind their foreign counterparts in terms of digitalization. The digitalization index of Russian companies does not exceed 1.84. The digitalization index of Western companies today is 2.08. To date, many issues at enterprises are resolved using paper media and their rate varies within 25 %. For a complex solution of problems, processing chains can often be applied, which allow performing several processes, both sequentially and in parallel.

The leaders in the application of digital technologies in the Russian segment of personnel management are industrial enterprises, telecommunications companies and financial institutions. The low level of application of digital technologies is demonstrated by enterprises in the field of

transport logistics, services and the oil and gas industry. Although, the oil and gas industry has made a significant breakthrough in the use of digital technologies in recent years.

In the conditions of current socio-economic situation, substantial changes are required in all spheres of society. With the development of new economic relations, updated requirements are imposed on employees of organizations. It is not only about the selection, training and placement of personnel, but also about the formation of new mentality, consciousness, as well as methods of motivation. As a result, it is the motivational policy that becomes the primary condition for the development of the company's human resources potential.

Efficiency and the ability to achieve a particular economic outcome is a hallmark of the company's human resources potential. The economic aspect implies the efficiency and effectiveness of activities, as well as an appropriate approach to determining all the qualities of an employee. Therefore, efficiency is initially laid down in the basis of human resources. Schneider Electric, a French power engineering company that pays close attention to improving the well-being of employees and empowering them to make own decisions, is considered a pioneer in becoming a person of a new age, considering digital transformation [7].

Human resources and their effective management become the basis for the existence and development of modern companies' competitiveness. It is necessary to efficiently engage human resources, as they are the main source of all ongoing changes and lead the company to success. According to many experts, the competitiveness and success of most companies depend not only on the size of financial and material resources, but also on human resources [8].

It should be noted that the personnel potential of the company is formed under the influence of personnel policy. At the same time, high personnel potential can be formed only by an active personnel policy. This is explained by the fact that the potential can be formed only if there is a system of motivation and stimulation of labor. The absence of such a system leads to the destruction of the company potential.

Based on the foregoing, a significant difference exists between those who prefer to apply artificial intelligence in entrepreneurial activities and those who are not ready for digital transformations in personnel management [9].

On the other hand, the majority of managers (more than 60 %) believe that the application of digital technologies can lead to a decrease in the employment level. On the contrary, another part of leaders takes the view that the use of digital technologies has a positive impact on increasing the population employment level and contribute to the creation of new jobs.

One of the obstacles to the introduction of digital technologies in HR is corporate culture. The staff of most companies notes that the corporate culture is aimed at achieving the enterprise strategic objectives and does not aim to introduce digital technologies for human capital management [10].

### 3 Results and Discussion

The HRM role in personnel management is growing every year and should be focused on digital transformation in an increasingly competitive environment. The labor market in the context of digitalization is transforming, which leads to the emergence of new professions, such as an Internet marketer, web developer, graphic designer, and others. Therefore, HR specialists must quickly respond to changes in the external environment and be able to work in new conditions, namely, automate recruitment processes for vacant positions, apply digital technologies in solving daily tasks, and manage artificial intelligence. Thus, further human resource management in modern conditions cannot be imagined without the application of digital technologies, which can greatly improve the efficiency of personnel management services [11].

A number of issues in the personnel management system hinder digitalization; almost all of them are associated with the low qualification of personnel mastering digital skills and an insufficient level of automation of personnel management technologies:

1. Use of digital technologies requires a quick response to changes in the external environment. The demand for digital technologies to control the workflow of employees leads to the emergence of programs for monitoring the working time of staff.

2. Process of introducing digital technologies in the personnel management of an enterprise requires the availability of personnel with digital skills. To meet the demand for qualified personnel, an online university appears, allowing us to get the appropriate digital skills without being tied to geographic area. The only condition for passing the relevant courses is the availability of the Internet.

3. The imbalance between entrepreneurs who are ready to implement digital technologies and those who are not ready to accelerate the enterprise digitalization process. About 70 % of enterprises are investing in digital technologies in one form or another, and 30 % of managers believe that the application of digital technologies causes a decrease in the employment level.

### 4 Conclusion

Strengthening the system of staff development and providing state support to those enterprises that are striving for the active use of digital technologies in personnel management is one of the ways to solve existing problems. The digitalization of the given system is essential in the selection of employees for vacant positions. Potential employees gain the opportunity to single out those vacancies that meet their needs. Moreover, the introduction of artificial intelligence allows potential employees to receive forceful advice for the required position.

Personnel management has an impact on the enterprise strategic development, taking the responsibility for the personnel adaptation to new conditions, by conducting various motivational trainings and an individual approach to the enterprise employee.

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