Perspectives of Digitization in Staff Management*

Tatyana Y. Odarenko

V.I. Vernadsky Crimean Federal University, Yalta, Russia
teodarenko88@mail.ru

Abstract. We consider the direction of transformation in personnel management in the transition to a digital economy. At the same time, the importance of personnel management will increase, like human capital and digital information become more and more popular and developed. The qualification requirements of running a digital business will require continuous improvement of the professional experience and knowledge of the staff, and hence it is continuous learning. The competitiveness of enterprises is, first of all, highly qualified personnel, which will become one of the most important factors of an enterprise in the digital economy. The need to process a large amount of information related to the selection of candidates for open vacancies requires the use of digitalization in the processing of primary data of candidates. Creating, one might say, digital workplaces will drastically change the technology of interaction between staff. The organization of contactless working hours, the creation of an internal corporate network will allow you to avoid the irrational time spent by staff on inquiries, requests, paperwork and receiving references. The widespread use of distance learning, a testing system with pre-installed employee gadgets, really reduces the time spent on personnel certification with an increase in the quality of learning outcomes. The results of digitalization in the near future can significantly increase the effectiveness of the staff without special changes in its number and composition.

Keywords: personnel management, directions, digital technologies, competitiveness, digitalization

1 The need to introduce innovative digital technologies in the field of personnel management

The Russian economy has come up with an urgent need to digitize both enterprises and the habitat of its citizens. Cash payments are rapidly becoming a thing of the past, Russians more and more often solve problems that arise, through the site of public services, the word digitalization becomes more and more familiar to our ears. In the May decrees of 2018, the President of Russia voiced and set the task for the early introduction of computer technologies in all spheres of the country's life and business. Conventionally,

among the directions of development of the digital economy are the following, which are presented in Figure 1

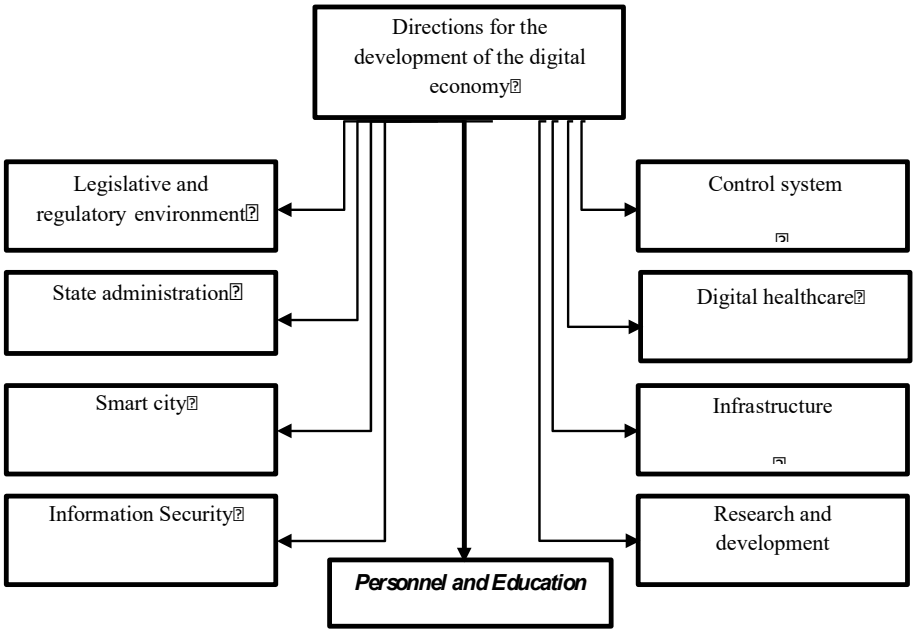

Fig. 1. Directions for the development of the digital economy

Innovative organizational business models, modern motivational programs and direction of staff development, innovative approaches in searching and creative staff recruiting, establishing communicatory contacts in a company are necessary for new digitizing actuals [1]. Thus, the staff managing function will remain the main one with the help of digital economy development [2, 3].

In particular, new technologies will be used in staff recruiting: video interviews, social networks, gaming, etc. The problem is that the staff readiness in Russian enterprises in conditions of the digital economy is low so far.

Researches that were made in the Analytic Center of the National agency of financial researches and the "Skolkovo" Fund proof it [4].

Russian enterprises were evaluated by the following aspects: keeping and passing information; using the internet; integration of digital technologies; information security; human capital. Human capital had the lowest result. The level of development of the human capital evaluates at 20 points from 100, and just at 7 for the traditional industries. It was stated that enterprises devoted little attention to the modern digital technologies training of their staff. Only 33% of professional organizations (and 8% of traditional economy industries) give staff money to take a course in digital technologies [5].

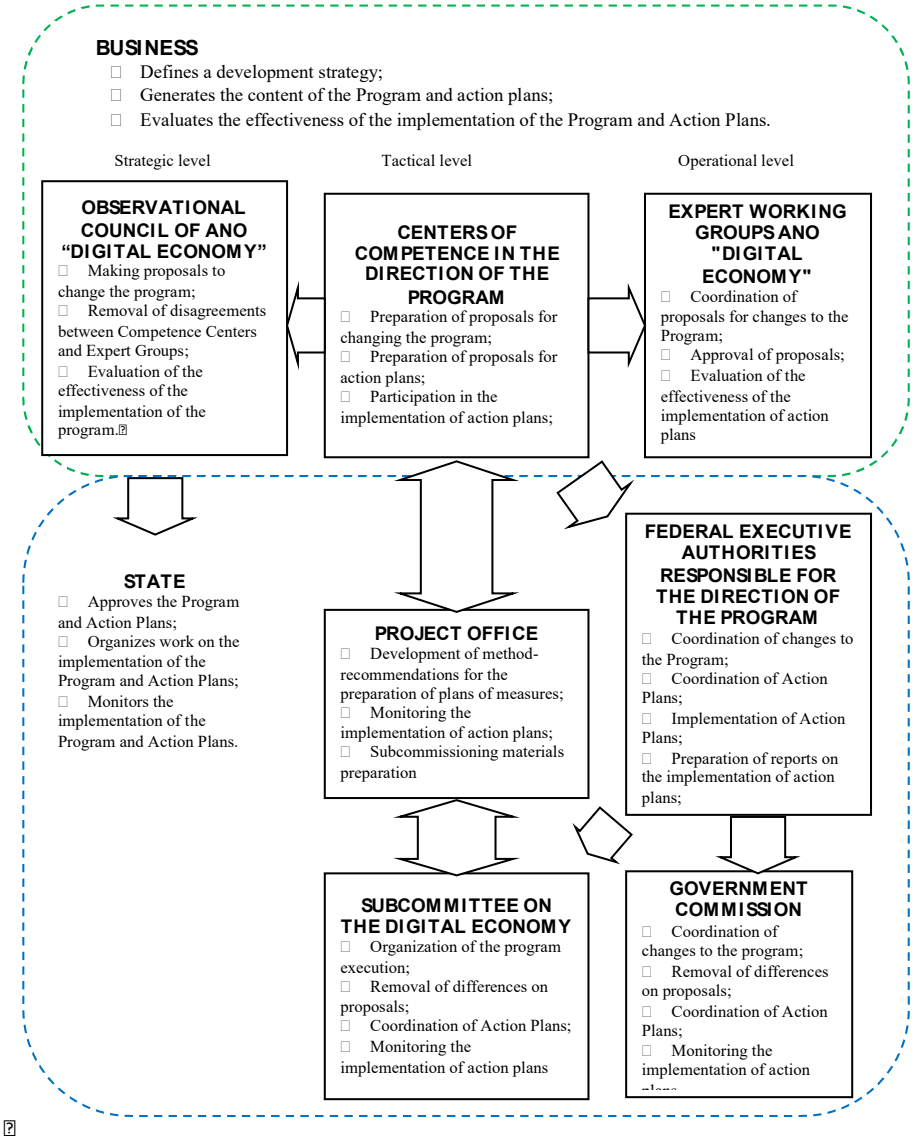

Fig. 2. The management system of the program "Digital Economy" (author: http://d-russia.ru/sostoyalos-soveshhanie-po-organizatsii-raboty-tsentra-kompetentsii-formirovanie-issledovatelskih-kompetentsij-i-tehnologicheskih-zadelov.html)

2 Digital transformation in the field of personnel management

2.1 Software methods in data processing for staff recruitment

The actuality of the chosen theme is considered that refusing to deal with digital technologies in the world, where everyone uses them more and more, can only mean an inevitable stagnation of the economy because of the productive forces' slump and also because of hopeless gap of means of production.

The goal of this research is to examine directions of possible use of digital technologies in managing staff, to determinate expediency and economic need of using them in enterprises in the territory of the Russian Federation.

Introducing IT technologies (Fig. 1) into active enterprises is not only a spirit of the times but an acute need that indicates its existence in connection with its fast-falling competitiveness.

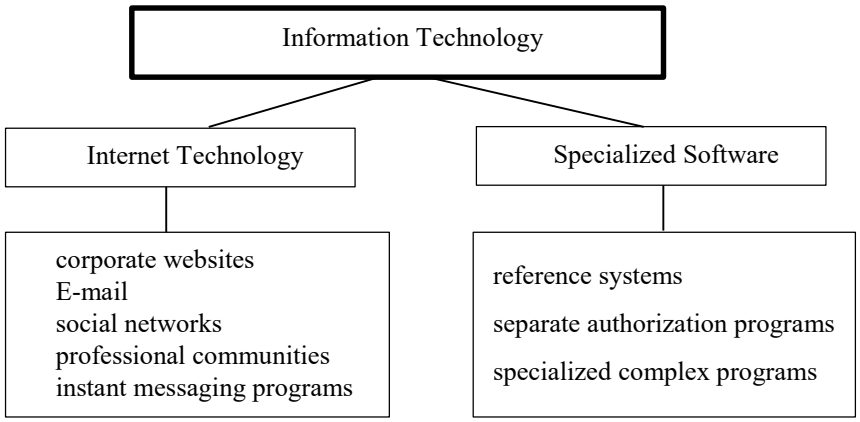

Fig. 3. Information technology in the field of personnel management.

Introducing digital technologies in managing staff service can have lots of directions, and each of them will be aimed to use labor hours more effectively [6].

Business processes that can be exposed to full or partial automation are not being viewed in this article. Attention is focused on changing traditional methods of information processing with special programs, time management and its effective use quantitative and qualitative analysis of work, staff loyalty and other directions.

Digitalization is becoming more and more stable its place in our life. This process does not allow trampling on the spot and requires constant advancement, self-development, and improvement. It is costly and takes time, is accompanied by the introduction of new technologies, commits to changing the usual processes and taking risks. At the same time, personal qualities of personnel, their striving to improve, to develop new ideas, learn, be flexible to change, be able to define their place and role in this process and act in this direction are highlighted. And only practice will show the further effectiveness of the steps taken.

Since the competitiveness of enterprises depends on highly qualified personnel, i.e. human capital, then nationwide in a global digital economy, human capital is determined by the ability to collect, process and use digital information effectively. Therefore, for the development of the digital economy, it is necessary to pay increased attention to the development of new personnel with new psychology and new ethics, which will give them new energy necessary for digital society. In his works Malysheva G.A. emphasizes the need to remember that a full-fledged education and the general culture of a person are not limited to the amount of technical knowledge and skills, therefore the bias towards exact and technical disciplines can not only go to the detriment of humanitarian knowledge but reduce the overall quality of the country's human capital [7].

But it should be thought that technological unemployment, caused by the considerable disproportion between demand and the traditional structure of labor market supply, can become one of the risks of digitalization.

The digital economy is designed to ensure the dynamic development and transparency of business and government management at all levels. At the same time, in addition to a positive renewal of the environment and relations, the digital economy delineates and enhances the dangers, challenges, and threats that are directly and indirectly related to the features and characteristics of the new digitalized [8].

There are three points on the basis of digital transformation: technological (basis for digital infrastructure), educational and communicational. The constant development of these points contributes to forming corporate culture that leads to developing flexibility and activity of employees. Companies need such conditions to create surroundings where digitization will be the most effective.

Giving public and available data, that will show employees all the pluses of digitization by the examples of successful practices, will help to overcome employees' natural resistance that concern innovations. Doubtless, benefit can be of use by the administration (e.g. talks, briefings, seminars, etc.). But in any case, staff adaptation of using new forms and methods, their active users can't happen immediately – a certain period of transition will be needed.

Information area around us is filled with digital technologies, they change gradually our perception and our attitude towards this process. Undoubtedly, an employee's age is very important for perception the digitalization process. The less it is, the more an employee is influenced by digital surroundings, and the more is the effectiveness of digital methods that are influenced by him. This given factor must be taken into consideration when digital technologies will be admitted.

Active developments in such fields as telecommunications, microelectronics, cognitive technologies, etc. necessitate high-tech changes for any production or enterprise. According to this a new information-oriented society (that is called the "digital economy) is appearing where staff managing service is needed to be changed. The evidence is that the program "Digital Economy of the Russian Federation" (decreed by the government of the Russian Federation on the 28th of July in2017, № 1632-p) has shots that deal with the basic directions of digital economy's development in Russia [9].

While digitalization the staff management's function will remain one of the principal ones. It will define the effectiveness of the company's activity, its competitive power in markets, and it will change a lot.

From the point of view of creating an effective personnel management system, it is necessary to single out a number of its most important elements: personnel selection in sufficient quantity and quality (qualifications), a systematic approach to personnel training and retraining, a wage system, an employee adaptation system in an organization and interpersonal relationship within the team [10].

The most enterprises in Crimea (especially in its coastal part) face the problem of high turnover of staff. Nowadays most pf problems concerning staff recruiting can be solved with the help of newly made tools for data handling, including artificial intelligence [11]. These days almost every person who's looking for a job downloads his resume into numerous web-sites, leaving his digital trace on the Internet. Some of the competitors make several resumes, they put their different fields of specialization, different qualities and abilities hoping they will be able to get a job in given specializations. Even elementary searching programs enable to classify sited information by profession, sex, age. This staff recruiting method with the help of artificial intelligence showed itself to be good in such a company as Mail.ru. Its effectiveness was proved in practice: four times less of reduction of costs for staff recruiting, two times less for closing vacancies.

Development of the given direction has the possibility of creating a product for HR, that enables to get a prediction in dismissing employees, their correspondence to a job, their possibility to complete the period of probation.

But the main obstacle in the expediency of using this method is a lack of sufficient information that is required for evaluating a candidate without a competitor. Not so long ago it was declared that a new video analysis method (HireVue video resume) with reference to one of the massive vacancies would be used by food stuff and goods for your house manufacturer Unilever. Human-candidate is recruited only when interviewing for a job, before that all information about him is analyzed by a system. This project disclosed quite good future of this method. Within the Russian market some of Russian companies, such as Skillaz and VisionLabs, made efforts to create similar models. Mature technology already exists officially, but the lack of data array (information about lots of people, who has already been interviewed successfully or has failed an interview) put obstacles in the way of using it widely [12].

The common database of claimants is an element of know-how. It must be not just a dossier but a common transparent "smart" database that will be able to give the clearest understanding of skills, abilities, and turns of a claimant. Such a database and such an approach are able to help with forming cross-functional and areal groups in non-standard career planning. As a result, HR department gets "a digital professional trace" of all employees for creating a long-term career decision.

2.2 Creating an internal corporate portal as a form of saving working time

Rational use of labor hours means an opportunity to solve as many industrial or individual tasks as possible with minimum costs. Creating a corporate portal for all employees where it is possible to accomplish tasks from your computer or mobile phone will enable not to waste labor hours going from one department to another one, searching a required person.

2.3 The use of remote forms of training and staff development

One of the most important directions for increasing of labor productivity of employees is organization of non-stoppable high-qualified and effective learning process. In ordinary terms calling professional coaches, collecting staff, labor time costs, holding classes (taking average information perception into consideration) are enough expensive activities concerning money and time [13]. Moving this all of these into computer opens new possibilities in the mode of learning, its duration, and place. Distant learning (especially such branches of learning as ecology, fire safety, labor protection, etc.) is developing rapidly. Widening of this field towards corporate learning on the basis of IT. There are examples showing that it gives good results, makes the new employee's adoptive process faster, increases knowledge assimilation, etc. In opinion of companies that use such system (iSpring for example) they have gained comparing with forms of learning they used to deal with.

So managers of the "Honewell" company (Russia) mentioned a shortening of sales manager's adaptational time who learned online, his coefficient of efficiency increased a lot. Online shop MW-LIGHT reduced costs for study of their employees from 3900 to 179 rubles. One of the most famous companies called "Johnson & Johnson" cope with determining knowledge level of 400 medical representatives all around the territory of Russia within two days. The traditional way would have spent 20 times more time.

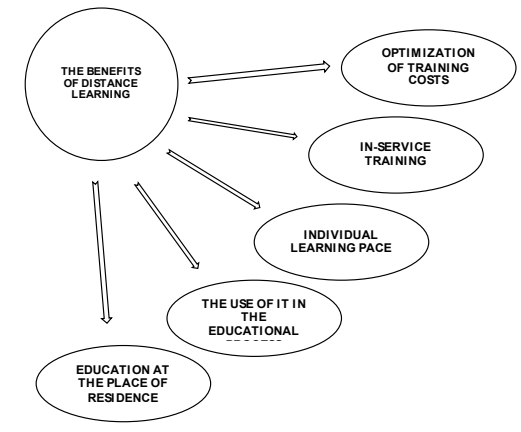

Fig. 4. The benefits of distance learning

Such ways of learning don't need learning classes. A listener can assimilate information wherever he is a comfort to be. Existing programs enable to study with the help of any device: a computer, a notebook, a pad, a phone. And if you have such programs as iPad or Android installed, you even don't have to be connected to the internet.

2.4 The need for different approaches to employees of different ages in the digitalization of personnel management

Younger employees show particular interest in such forms of education. They easily use various gadgets in their daily life, surf the Internet, go through registration procedures, use a multi-level search to solve problems, perform several parallel or intersecting tasks. The increasing complexity of software systems and equipment occurs simultaneously with the accumulation of experience and knowledge in the digital sphere of this generation. By offering digitalization of processes in the enterprise, the employer begins to communicate with young people in their usual language and way. Test questions, short and clear informational messages - all this has been present in our everyday life for more than a year.

Another issue is the people of the older generation and low incomes. It is more difficult for this category of workers to adapt to innovations and, accordingly, to understand their necessity. Understanding that age workers are often the bearers of the knowledge, experience, and traditions of the enterprise, the manager simply needs to put additional efforts and resources in support and additional training for this category of personnel.

2.5 Organization of monitoring the use of staff time

Time managing and territory movement control is very important for a lot of organizations. It can be easily solved by innovating a biometric system integrated with CACS (control and access control system). As a rule, fulfilling industrial tasks is limited by different areas (buildings, rooms) for different staff groups and if someone is not in "his" demarcation point, it automatically can be meant time-consuming. Intellectual access control can be realized by video surveillance or by using individual cards with an electromagnetic chip, that snoop all the employees' movements with corresponding hardware. The fact of having such a control form disciplines people and reduces non-productive time spending (smoking breaks, speaking by phones, drinking tea during labor hours). For example, there is an enterprise of hotel business where limited access for some staff categories into guest zones is being used, where a certain individuality of solving problems is used as well (chambermaids, cleaners, technical staff). Nevertheless, problems concerning effective control management appear especially if an enterprise has a big volume of works, a huge territory and a large number of employees. Using such a system can increase productivity in the time of the same labor hours and a staff quantity.

3 Prospects for the development of digital transformation in the field of personnel management

Firstly, digital transformation has to be aimed at increasing the effectiveness and openness of company's business processes.

A subject who adopts such a system has the rights to count on information processing with a considerable increase in speed, in greater opportunities in getting deep, high-quality and large-scale analytics. This is how access to critical numbers opens and becomes easier. And this will definitely help the manager of the company to reduce time for making important and strategic decisions [14].

Secondly, the business processes of a company under the impact of digital transformation will be changed as an inner and outer client will prefer. New business-processes will be made.

It is predictable that digitization can't exist without attracting investments, but results exceed all the costs to a considerable degree. It is meant organizations that have a large enough turnover and a big quantity of employees on staff. Digitization planning must take into account an expected impact and the size of the enterprise. The innovation of complicated automation systems into a small company will do nothing good.

4 The development of digital technologies as a form of human resource conservation

Human capital is a determining factor when changing to new digital technologies and decisions. There is a greater need for preparing new managers, who are able to adapt and be flexible when accepting new managing models. The following steps must be done to make this happen: improve leading qualities, culture, technologies, enrich employees' experience, use new methods in business management and improve digital technologies because future is digitalization of enterprises.

Every step on the way to the automation of information processing and preparing for making decisions proves an increasing value of staff management. Human capital becomes a supreme value in a world of technologies. The realization of directions we read above can enable companies to take the lead in the market in the background of increasing competing for employees. Realization of digital decisions in reducing non-production costs of labor hours and also using automatic control forms open new potential for growth of production within staff and labor hours.

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