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**"Global Challenges and Prospects of the Modern Economic Development"****INTRODUCTION OF DIGITAL TECHNOLOGIES IN PERSONNEL**  
**MANAGEMENT IN EDUCATION**

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***Abstract***

Automation of the personnel service has always been one of the most popular tasks solved by Russian enterprises. However, in the past few years, it has already been discussed not only about the application of new methods and technologies in individual directions, but about the formation of a new model of personnel management. Accordingly, the automation of routine personnel operations should reach a new digital level. The article reveals the advantage of digital technology. The analysis of various studies of HR management and education using digital technology is presented. The role of the digital HR strategy, which needs to be developed today, is shown also. It is accented that the departments need to organize their work so that their actions do not contradict the main strategy for the development of the university. The priority tasks of the IT service in the context of the digital transformation of the university are identified, and the role of the personnel management service in the course of digital transformation is disclosed. Using of digital technologies in HR management is considered in the article on the example of the University «Synergy», well-known both in Russia and on the international market. The article describes the activities of the University «Synergy»: named educational projects with leading Russian employers; the structure of the university is described; its partners are named – prestigious foreign educational institutions. The personnel management mechanism at the University is described.

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## 1. Introduction

The transition of society to the rails of the digital economy entails a major restructuring in the structure of socio-economic institutions and changes in the whole organization of social and economic relations in society. Productivity of companies lags behind technological progress. Business is not keeping pace with technology. But humanity has already had to deal with something similar.

Such concepts as «information crisis», «information hunger», «information avalanche» have been familiar for society since the 1970s. Adaptation to new living conditions took place gradually, new areas of doing business, new professions and new opportunities for communication appeared.

First of all digital technologies are required to ensure convenient and reliable exchange of information between government agencies and citizens, as well as to create administrative burdens on business structures and to create effective system of managing by economy and politics as a whole.

## 2. Problem Statement

Formation of the newest methods of dialogue between the state apparatus and citizens, improving the structure of public administration with using modern technological innovations has already become the main vector of activity of the Open Government. The pace of development of digital technology is growing all the time.

Russia has big chance to become a world leader in the storage, processing, broadcasting and guaranteed protection of a huge array of information, or otherwise big data. Bridging the gap between technology, business, society and government authority is within the power of the people themselves who are forced to adapt to technological changes in both domestic and professional activities.

In the organization, the personnel service today has a unique role: it can and should help managers to adapt to new technologies and their implementation, employees to use new work models and building careers, organizations to adapt to changes in society and the new public policy. Digital transformation in these conditions is becoming a natural stage in the development of personnel management (Agafonova, Klimacheva, & Gaidar, 2017).

## 3. Research Questions

According to forecasts, by 2024 should be created direct access to the Internet throughout of the country and remote small villages will receive signals by via satellites. The future structure of public administration will be based on digitalization and various electronic services.

As follows from the Deloitte researching, the digital transformation of HR processes is carried out in the following areas: implementation of design-thinking; development and implementation of mobile applications to integrate collaboration work; real-time operational HR implementation (Kononov, Kul'ba, & Shubin, 2014).

Universities that seek to maintain their position in the global education market have the task of entrance into the international scientific and educational space. In particular, part of the criteria in the QS World University Ranking rating assesses the degree of globalization of the university in the context of the share of foreign students and teachers. The Times Higher Education (THE) rating takes into account

the share of foreign students, the share of foreign teachers and the number of articles published in collaboration with foreign research groups.

Among the strategies of universities to integrate into the international educational space are the creation of open international campuses in other countries, the attraction of foreign scientists, teachers and students, the support of academic mobility programs for their own scientists and the organization foreign practices for students.

Globalization includes such aspects as: economic, political, socio-cultural, technological and environmental. Globalization has helped expand international production and trade, contribute of advances in technology and let people from different societies to come into contact with each other. One area of interest to psychologists is the impact of globalization on human interaction.

In *Journal of Cross-Cultural Psychology*, Wolff and Borzikowsky in 2018, they published the results of a study that focused on intercultural competence - the ability to interact effectively with people who are culturally diverse.

Globalization trends are clearly confirmed by statistical data on the dynamics of the number of international students. The dynamics across OECD countries (Organization for Economic Co-operation and Development) shows an annual 5% increase in the number of foreign students. In addition, according to ICEF Monitor, by 2020 it is planned to increase funding for the Erasmus + academic mobility program by 40% - up to 14.7 billion Euros.

While countries with traditionally high quality education, such as the United States and Great Britain, remain attractive to foreign students, new countries and regional educational centers appear in this field competing for income from educational activities and the intellectual capital of foreign students. In prospect, Russia may become such a center.

The introduction of digital technologies in the field of education will greatly contribute to this, for which staff requires digital skills and competencies. Professor Xiaolan Fu of Technology and International Development Director of Technology & Management Centre for Development Oxford University in his report named the digital skills and competencies which necessary to harness the development potential of existing and emerging digital technologies. He also examined how technological advances in information and communication technology can help develop digital skills. He spoke about the conditions and policies that are needed especially in developing countries to create digital competencies and prepare them for the current wave of technological changes (Fu, 2018).

It should also be noted that the introduction of digital technologies in the educational process recently has led to the creation of many electronic educational resources in various subject areas of knowledge. At the same time, the problem of providing quality didactic content has not been completely solved. In connection with, teachers have such an important task as the development of competencies in the field of expert evaluation of electronic educational resources (Xie, Di Tosto, Chen, & Vongkulluksn, 2018).

#### **4. Purpose of the Study**

The introduction of high-tech solutions leads to a change in the format and content of almost any work, as well as a rethinking of approaches to staff planning. To improve the efficiency of the company, one of the components of which is to improve the work of the personnel management system, in modern

conditions it is necessary to develop a digital HR strategy, which includes mobile and cloud solutions, as well as analytical tools. The development of a digital HR strategy is aimed at reducing the complexity of HR functions, which will simultaneously allow companies to increase their competitiveness and business productivity. There is no universal solution for achieving specific results through the use of digital technologies. But, listening to the opinions of end users, you can get the most valuable information and use it as a basis for further actions.

## 5. Research Methods

To ensure the digital transformation of the personnel management system, it is necessary to supplement each subprocess of the business model of personnel management with elements of digital technologies. Consider the details of the context diagram. The business process of personnel management includes seven key subprocesses: HR planning, Personnel accounting, Personnel operation, Personnel performance assessment, Labor incentive motivation, Personnel development and Control of work by Personnel management

Traditional calls and interviews of candidates for vacant positions with HR specialists are a thing of the past. It takes too much time. Automation significantly improves the accuracy and efficiency of personnel selection, so that the company immediately receives tangible benefits. Startups, new services and applications regularly appear in this area. Already, companies are available robots that download all resumes from job search sites that meet certain requirements; telephone and face-to-face assessment interviews can be replaced by online questionnaires for the initial selection of candidates; the information system is able to independently record the time and place of the interview, etc. For example, online recruiting is quite successfully uses by the international company KFC.

The University, by providing carte blanche to individual employees to introduce new methods of working with digital technologies, as well as providing support in solving these tasks, can receive a powerful impetus for transformation into a educational institution of a new format with optimized internal processes (Tsvetkov et al., 2009).

An interesting article is written by Wanner and Palmer (2015) about researching of student and teacher perceptions of flexible learning. Over the last few decades in education, there has been a progressive change towards more student-centred and self-directed learning. Teaching and learning is moving from teacher centred pedagogies and practices to personalized learning in which students are more actively involved in the learning process and where students demand more flexibility through online and blended university courses.

Consider using of digital technology in HR for example of the University of Synergy. The University «Synergy» is one of the leading Russian universities that successfully implements programs of practice-oriented education that harmoniously combines in its conception the traditions of classical training and the applied orientation of education. «Synergy» is the university with many years of experience in the domestic and international market of higher, secondary and additional education. The University is a major innovative methodological and researches center, has a high personnel and scientific potential.

The university carries out specialized educational projects with leading Russian employers, including: Moscow Credit Bank, Sberbank of Russia, VTB 24, Rosgosstrakh, Ingosstrakh, the Ruyan and NTB group of companies, Rosinter Restaurants, Euroset, Sitronics and others. Branches of the University are located in Omsk, Izhevsk, Krasnogorsk, Krasnoznamensk, Rybinsk, Korolev, Dolgoprudny, Podolsk and Bronnitsy.

The University is a partner of a number of prestigious foreign educational institutions, including: Durham Business School (Great Britain), Newcastle Business School (Great Britain), Judge Business School (Great Britain), Technische Universitat Dresden (Germany), Polimoda S.r.l. Internatoinal Institute Fashion Design & Marketing (Italy), University of International Business and Economics (China), Tongji University (China), Shanghai University of Finance and Economics (China). The University's international department offers students internship programs in England, the USA, Singapore, India, Brazil and China. The university's overseas campuses operate in San Francisco, London, Rio de Janeiro, the CIS countries and Eastern Europe.

The University «Synergy» includes: 6 faculties, 65 departments, master's programs, graduate schools, 4 colleges, publishing house, Distance Learning Center, Center for Economic Research, Business Incubator, Career Development Center, Institute of Business Education, Training Center to the exam and the Center for the commercialization of technology. The University has two dissertation councils. Among the university's teachers are well-known experts in Russia and the world in the field of economics and econometrics, business, insurance, law and other sciences. In 2008, the university's team of authors was awarded the Prize of the Government of the Russian Federation in the field of education, and the rector of the University, Yuri Borisovich Rubin, was elected a corresponding member of the Russian Academy of Education.

Various mechanisms are used to manage personnel at the University. One of the mechanisms of university staff management is a balanced scorecard. Such an individual system allows us to consider the performance indicators of the organization and the individual as an interconnected complex.

The Personal Balanced Scorecard (PBSC) is currently being considered as an effective method, which includes working with employees, individual student training and counseling. The special role of this method is to change the teacher's behavior in order to increase the effectiveness of the university (Kononov, Kul'ba, & Shubin, 2014). The PBSC system consist of a Balanced Scorecard of an organization (OBSC), Talent Management (TM), Total Quality Management (TQM) and Personal Balanced Scorecard (PBSC).

Another important element of the personnel management mechanism should be considered the correlative method. This method is a qualitatively - quantitative analysis of interrelated factors characterizing the attitude of staff and the university. In form, it resembles a PEST analysis reduced to the scale of an educational institution. Further application and development of these mechanisms in personnel management is associated with the digital transformation of the university.

## **6. Findings**

We think that the project on the digital transformation of the university should be initiated by top management and supported at the level of institutes / faculties / strategic academic units / departments.

The latter, implementing measures related to the digitalization of the university and aimed at achieving the necessary results, must link their action plans with the overall development strategy of the university.

Improving the IT service should be carried out both in the technological direction, within the framework of which it is planned to use new IT methods and approaches, and in the direction of simplifying the interaction of stakeholders with these technologies. We see the following priority tasks of the IT service in the context of the digital transformation of the university:

- tracking technological innovations and advising on options for their possible use to achieve the goals set up for the university;
- improving policy and procedures aimed at stimulating to use of innovative digital technologies among the administrative staff of the university, students and scientific-pedagogical workers;
- providing maximum open and convenient access to information resources and systems in order to ensure the possibility of using data through new technologies.

The role of the personnel management service in the course of digital transformation is to develop a complex program for training personnel to introduce new technologies:

- development of employment contracts and continuing education programs to ensure the continuous development of digital literacy skills and the necessary competencies;
- giving educational processes, along with the processes of scientific activity, an important role for promoting innovation in the development of new methods and process of teaching with maximum using of the potential of digital technologies.

## **7. Conclusion**

The university's potential is determined by the high qualification level of the teaching staff. A high level of qualification requires the use of Human Resource Management technology. Many foreign organizations have an HR management position. Human resources management technology gives a synergistic effect if at the university has a well-developed system of adaptation to the external and internal labor market (individual career planning, staff training and retraining, stimulation of professional growth and staff rotation), flexible work management systems are used payment systems are used, which built on the principles of comprehensive accounting of personal contribution (including by the employees themselves) and the level of professional competence (knowledge, abilities and skills that the employees actually mastered), is maintained rather high level of participation of individual workers and working groups in the development and adoption of managerial decisions, etc.

In modern conditions, the solution to all these problems can be raised to a whole new level using digital technology. The main thing is the desire of top-management and the readiness of all staff (in this case, the University) for these changes. Our research is demonstrates the need and readiness of all components of the business system of the organization in question to implement digital HR-tools in order to build an effective information system for personnel management.

## References

- Agafonova, M. S., Klimacheva, A. K., & Gaidar, K. O. (2017). Use of information technologies in the field of personnel management. *Scientific and Methodical Electronic Journal "Concept"*, 39, 546-550. [in Rus.].
- Fu, X. (2018). Building digital competencies to benefit from existing and emerging technologies, with a special focus on gender and youth dimensions. Retrieved from: [https://unctad.org/meetings/en/Presentation/cstd2017\\_p10\\_XiaolanFu\\_en.pdf](https://unctad.org/meetings/en/Presentation/cstd2017_p10_XiaolanFu_en.pdf) Accessed: 01.10.2019.
- Kononov, D. A., Kul'ba, V. V., & Shubin, A. N. (2014). Information management: Elements of management and methods of information impact. *Management Problems*, 3, 25-33. [in Rus.].
- Tsvetkov, V. Ya., Skuratov, A. K., Zakharevich, E. E., Zakharova, O. K., Derbeneva, O. Yu., Popova, I. A., ..., & Soldatenko, I. S. (2009). *Information technology in university management. Collection of analytical materials on the project ICT4UM*. Tver: Tver State University. [in Rus.].
- Wanner, T., & Palmer, E. (2015). Personalising learning: Exploring student and teacher perceptions about flexible learning and assessment in a flipped university course. *Computers & Education*, 88, 354-369. <https://doi.org/10.1016/j.compedu.2015.07.008>
- Wolff, F., & Borzikowsky, C. (2018). Intercultural competence by international experiences? An investigation of the impact of educational stays abroad on intercultural competence and its facets. *Journal of Cross-Cultural Psychology*, 49(3), 488-514. <https://doi.org/10.1177/0022022118754721>
- Xie, K., Di Tosto, G., Chen, Sh. B., & Vongkulluksn, W. V. (2018). A systematic review of design and technology components of educational digital resources. *Computers & Education*, 127, 90-106. <https://doi.org/10.1016/j.compedu.2018.08.011>