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"Global Challenges and Prospects of the Modern Economic Development"****EVOLUTION OF PROCESS OF AUTOMATION OF HR
DEPARTMENTS OF RUSSIAN ORGANIZATIONS**

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Abstract

The automation is being considered to be one of the key drivers of evolution of HR divisions of Russian organizations. The origins of process of automation of HR processes have been shown, a degree of automation of individual functions of HR systems has been evaluated, a digital profile of Russian HR divisions has been introduced on the basis of analysis of statistical materials, results of analytical investigations of the leading consulting companies and results of sociological studies conducted by the authors in June 2019. The evolution of automation of operational HR processes takes place over a long period of time, however, the significant quantitative and qualitative changes have happened only recently in this field. In this case automation in the majority of organizations continues to be of fractionary character, absolutely low is the share of organizations implementing a principle of personnel intellectual management. A spectrum of HR functions to be encompassed by automation gets expanded. Presently, there is an ample choice of tools for performing a wide spectrum of managerial functions of HR systems, on the part of HR experts there is a high degree of understanding a need for automation of HR processes in organizations of different levels. The automation opens comprehensive facilities for virtual organizations. The digitalization changes not only an image of HR department and its status, but enhances the role of HR divisions in the process of transformation of classical organizations into digital ones.

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1. Introduction

Presently the development of world community and the Russian Federation is at the stage of buildup of digital economics. The purpose of digitalization of Russian society is the increase of competitiveness of economics and attaining the people's growth in prosperity due to increasing the labour productivity on the basis of innovative technologies. A concept of digital economics encompasses all levels of management, including improvement of management at the organizational level owing to automation of key functions of people management system. The augmentation of automation processes in the recent years is being considered as the leading trend in personnel management (Bersin, Pelster, Schwartz, & van der Vyver, 2017). The automation is usually understood as the application of technical equipment, control systems and digital devices, liberating people partially or fully from direct participation in the processes of acquisition, transformation, transfer and use of information.

2. Problem Statement

An essential number of scientific and journalistic works have been published in the recent years on the range of problems of digital economics. The attention of scholars to this phenomenon grows continuously (Bögenhold, Klinglmair, & Kandutsch, 2017; Khalimon, Guseva, Kogotkova, & Brikoshina, 2018; Saveleva & Bogatyreva, 2019).

The digitalization of HR processes creates favourable opportunities for incorporating new strategic initiatives concerning the issues of motivation, training of employees, shaping their standpoint with respect to involvement into organization's affairs, creation of organization's ecological system (Osipova & Artamonov, 2019). It is necessary to systematize new practices and develop recommendations for duplication thereof. Presently, such work just begins. It is impeded to a great degree by the fact that the advanced HR practices get regarded by the management of organizations as a competitive advantage thereof, an access thereto for a scientific community is most frequently closed. Therefore, presently there is a significant lag of theory of human resources management of the advanced practices of people management in the efficiently operating digital organizations, which, in turn, significantly complicate a process of scientific reflection and demand a creative approach for solving the specified scientific and practical task.

The articles devoted to the peculiarities of functioning of HR systems under conditions of digital transformation have appeared in the scientific literature (Zagrebel'naya & Bostoganashvili, 2019; Osipova & Artamonov, 2019; Vasilieva, Pulyaeva, & Yudina, 2018). The human resources management is considered as one of the key business processes under conditions of digital economics, which undergo transformation and modernization first of all, since a development digital platforms, incorporation thereof contribute to reorganization of labour market, transshape the mechanisms of organization of labour relations and employment of people. Even more works dedicated directly to digitalization of human resources management system get published (Baranovskaya, Vostroknutov, & Berezovsky, 2016; Gutsche & Griffith, 2017; Gupta, Fernandes, & Jain, 2018; Al-Mekhlal, Abu Romman, & Al-Saqer, 2018; Mingazov & Prygunova, 2017; Zakharov, 2016; Pulyaeva, Kharitonova, Kharitonova, & Shchepinin, 2019). Normally, they describe, most frequently, the existing platforms and composite function provided thereby, but do not give a system-level view of evolution of digitalization processes, do

not analyze what difficulties are faced by HR divisions in the course of processes automation. However, particularly these processes are actively discussed by the HR experts and constitute the highest scientific and practical interest.

3. Research Questions

The research questions are:

1. Study the beginnings of process of automation of HR processes.
2. Assess degree of automation of individual functions of HR systems.
3. Analyze digital profile of Russian HR divisions.

4. Purpose of the Study

This study is aimed at considering automation as one of the key drivers of evolution of organizational HR divisions, justify that the process of automation of HR processes shall carry on continuously on the basis of stepwise implementation of small projects and integration thereof in the framework of the developed HR strategy.

5. Research Methods

The research employs statistical, comparative, economical and statistical and logical methods. A modern understanding of the theory of human capital in the context of the Concept of sustainable development, Concept of human development and Concept of decent work make a theoretical and methodological basis of this research. The results of analytical and sociological investigations, results of expert poll are used in the work. In order to define the key drivers of changes, capabilities and limitations of the system of management of human resources of organizations under conditions of economics digitalization in the framework of implementation of a scientific project of the Russian Foundation for Basic Research No. 19-010-01042\19, a temporary creative collective carried out an opinion poll in June 2019 among the experts responsible for personnel management in the Russian organizations. A questionnaire consisted of 5 blocks, 152 persons have been questioned, nearly every tenth respondent of this number was employed by big organizations, effecting transition to intellectual people management systems in organization. The poll has been performed in the remote format by means of form editor GoogleDocs. Subsequently the acquired data have been processed by means of Excel program. This article gives analysis to the results of one of the questionnaire blocks. The respondents have represented more than 20 regions of Russia.

6. Findings

The processes of people management in organization become paramount in the structure of business processes in two recent decades.

6.1. Beginnings of process of HP processes automation

The automation of business processes began in mid-1960s, when the first PCs appeared (Table 01) and further the MRP (Manufactory Resource Planning) and ERP (Enterprise Requirements Planning) systems developed, which were intended for planning provision and use of organization's resources in the process of production activity.

Table 01. Evolution of integrated automated systems of business processes management

Period	Characteristic
1960s	Development of local packages of tangible assets management
1970s	Emergence of MRP I (planning and monitoring capacity utilization and use of tangible assets)
1980s	Development of MRP II (planning all organization's resources, including financial and personnel)
1990s	Emergence of ERP I (these systems help plan all economic activity of organization, including investments and produce renovation)
2000s	Development of ERP II (supplementing the system internal data with the external ones: supply chains, relations with clients)
2010s	Renovation of ERP systems with the use of cloud technologies

Source: authors based on (ERP-Online, 2019).

According to data of Monitoring development of information-oriented society in the Russian Federation as of 03.10.2018 the coverage of organizations that incorporated ERP systems remains as before at rather low level, though it grows from year to year (Fig. 01). It is related, first of all, to the fact that such integrated systems can be afforded by big corporations only.

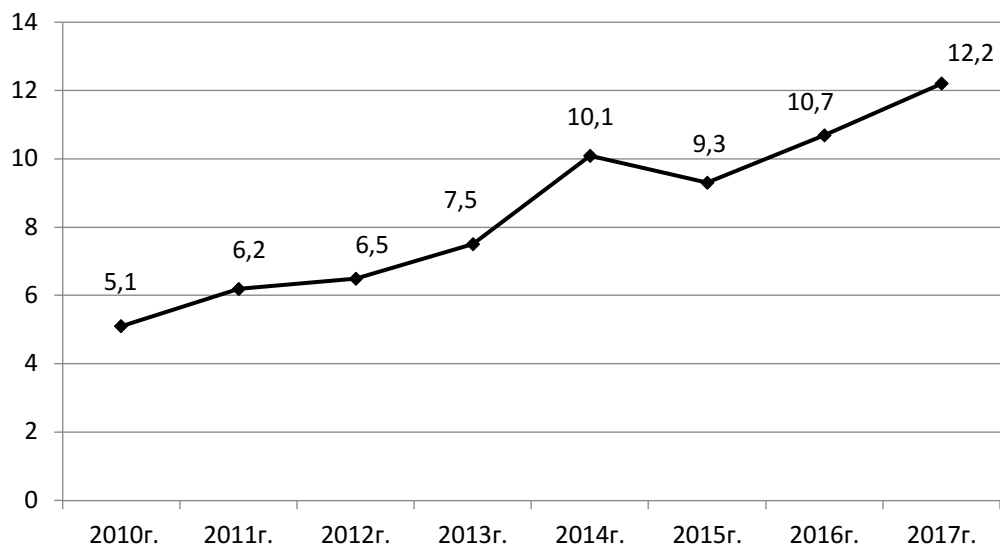


Figure 01. Share of Organizations Using ERP Systems in Total Number of Examined Organizations, %

Source: authors based on (Federal State Statistics Service, 2018).

The development of so-called HRM systems (Human Resource Management) has taken place in parallel with automation of management of production processes. This term has synonyms: HCM

(Human Capital Management) and WFM (WorkForce Management). These systems have been initially designed to solve two basic tasks: harmonize calculations and record keeping of operations related to personnel management as well as reduce losses related to personnel flow (Alekseeva, 2017).

In 1980s both Russian and foreign organizations possessing their own ACS (automated control systems) divisions developed the local software products for personnel record keeping. This software has been supported by different hardware platforms and software tools. Further, the development of HRM systems has taken place in two directions: local software products intended for automation of individual HR processes (selection, training, labour remuneration, etc.) and integrated systems most frequently integrated into ERP systems (Fig. 02).

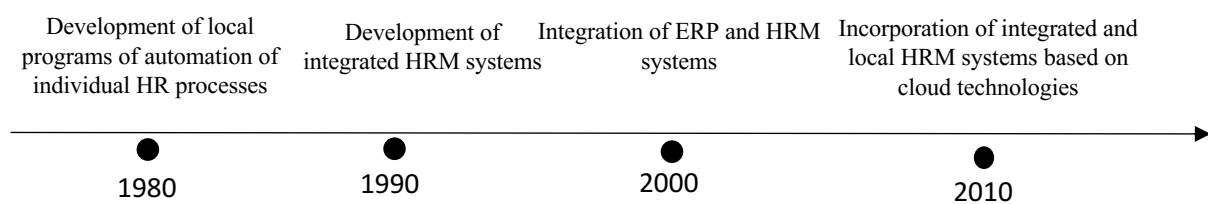


Figure 02. HRM systems evolution.

6.2. Assessing degree of automation of individual functions of HR systems

Proceeding from the results of investigation performed by Antal recruiting company from September 14 till October 31, 2017, in which 235 Russian and international companies took part in the format of in-depth interview (50 companies) and computer-assisted web interviewing (185 companies), 81% companies automate the HR processes. At that, the majority of poll participants have subjectively assessed the level of HR automation in their own companies as medium or high. Only 16% of respondents have assessed the level of automation in their companies to be low. In the course of investigation the respondents declared most frequently about automation of HR record management (90%), calculation of remuneration (68%), recruitment (56%), training and development (62%) and personnel evaluation (52%). The internal service lines (26%) and process of adaptation of employees (21%) were automated less frequently in the companies (Antal, 2017).

The automation in HR department gets developed quite dynamically. The results of investigation performed by recruiting company HAYS showed after two years in 2019 that HR experts understand that the HR department will not do without automation of such HR functions as daily performance record – 45%, HR analytics – 34%, keeping track of disloyalty of employees – 15%. A significant reevaluation of necessity of automating processes of internal communication (46%) has taken place, this indicator has become two times higher than two years ago (New Retail, 2019). As previously noted, the function of personnel administration and managerial control is the most automated one in HR divisions. Many successful HR practices of automating this function have been accumulated today. The processes of formalization of leaves, vacations and dismissals related to tiresome agreements, and paper chase have been automated in many companies. Business performs a number of standard actions with the use of information technologies. According to the results of opinion polls and data of website tadviser.ru the

most popular in the course of the recent years are the software products of 1C and SAP companies (Antal, 2017; New Retail, 2019).

6.3. Digital profile of Russian HR divisions

At the beginning of 2019 SAP CIS and Deloitte companies assessed in the context of joint investigation the successes of personnel management automation in 434 commercial organizations of Russia based on a four-point marking scale. One was awarded for HR on paper, two – for fractionary automation (individual processes, isolated systems, there is no consolidated data storage). The maximum mark – four points – was awarded for personnel intellectual management: with artificial intellect, predictive analytics, use of virtual augmented reality for training. It emerged that the overwhelming majority of Russian respondents got “stuck” between paper HR (90 companies) and fractionary automation (293 organizations). More than 2.5 points (which corresponds to mature automation with standard processes and consolidated storage of personnel data) have been gained by 51 companies only. Nobody has hit the highest level, intellectual personnel management (Bersin, Pelster, Shwartz, & van der Vyver, 2017). The last fact raises up especially the scientific and practical significance of author’s opinion poll conducted in 2019. As expected, big organizations with regular office staff exceeding 10,000 persons have appeared to be the most automated ones. The banks, metallurgical and mining companies from the sphere of IT and telecommunications, even the organizations of retail trade, pharmaceuticals and production of consumer goods are the most progressive in automation of HR processes (Bersin, Pelster, Shwartz, & van der Vyver, 2017).

The results of our investigations show the emergence of new trends in Russian economics. Practically every second respondent has stated that automation of HR processes is the most relevant for overwhelming majority of big and medium Russian companies seeking optimization, and only every fourth respondent is of the opinion that automation is the path for overwhelming majority of big companies. A variant of answer “all are equal before digitalization, big, medium, and small companies” has been chosen by almost 40% respondents, practically every third one considers that automation of HR processes is relevant for virtual organizations too, since the emergence of new software IT products opens promising capabilities for management of remote employees. Thus, understanding is observed on the part of HR experts that automation has a significant potential and will be eagerly sought by HR divisions of all companies irrespective of size thereof. The fact that there exists presently a sufficient range of tools for fulfilling a wide spectrum of managerial functions of HR systems in organizations different by size will contribute to this.

The investigation has shown that understanding is growing among managers and HR experts that the particular technologies in themselves do not guarantee transition to a new level of development and efficiency. Not a set of individual technologies is important for Industry 4.0, but a degree of integration thereof into social-economic and labour relations, a permanent character of automation. Nearly 93% of respondents consider that the process of automation of HR processes should pass continuously on the basis of stepwise implementation of small projects and integration thereof in the framework of developed HR strategy and 7.2% only – through implementation of a large-scale project, uneven development, incorporation of the cutting-edge IT products.

A transition from digitalization of HR processes takes place in the course of transformation of the modern companies into digital organizations to introduction of digital workstations, digitalization of personnel work, deployment of technologies, which change the methods of working and interaction between people. New technological capabilities have appeared for the development of automation of HR systems at the modern stage of development. Big companies begin to actively use the cloud technologies, which helps work with the use of individual electronic resources effecting management from customary computers, laptops or tablets. A reduced role of human-factor aspect by means of M2M system has been observed, since particularly this is the “bottleneck” of automation systems. Besides, a direction of employee’s self service system on personnel issues is being developed, since the cloud technologies and automated platforms help an employee independently request and acquire the personnel documentation.

7. Conclusion

The digitalization of HR systems takes place during a long period of time, but significant qualitative changes from the point of view of automation of operational HR processes have occurred in the recent years only. Presently there is an ample choice of tools to perform a wide range of managerial functions of HR systems, a high degree of understanding of necessity of automation of HR processes in different-level organizations has been observable on the part of HR experts. The digitalization creates fundamentally new capabilities not only for organization as a whole, but for the organization’s human resources management department itself too. New technologies change its image even today. The unpreparedness of personnel and difficulties of organizational character are the major reasons determining a growing gap between the rate of technologies development and business efficiency. A successful implementation of the state program for digitalization of Russia is only possible in case of acceleration of automation of HR processes on the basis of accumulated advanced HR practices.

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