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**DIGITAL TALENT MANAGEMENT FOR HUMAN CAPITAL  
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**Abstract**

This article discusses digital methods of talent management, justifies the need to study them in order to develop human capital. The author's definitions of human capital and talent management are presented. Attention is paid to the processes of transformation of education and management systems in the digital economy in conjunction with the development of human capital, digital technologies in the field of talent management. In addition, the transformation of the legal system is considered, so, the provisions of the Labor Code of the Russian Federation that need to be reformed in order to ensure the most competent management of human resources in the conditions of the modern digital revolution are highlighted. It is proposed to use the developed criteria for evaluating talent management as a tool for the development of human capital in the context of the development of information technologies, taking into account the specifics of the functioning of digital economy objects. An integral formula for assessing the impact of talent management in the digital economy has been developed. This is an adjustment of traditional indicators of human capital development, including such elements as digital heuristics; digital economic freedom; communication skills in the field of network interaction; digital mobility; continuity of the learning process; the ability to apply digital technologies; adaptation to innovations in digital technologies; temporal characteristics.

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## **1. Introduction**

An important direction of optimal development of human capital in the post-industrial digital economy should be considered to increase the efficiency of talent management. The competitiveness of the national economy and its economic entities largely depends on the active development of human capital observed throughout the world. The increasing trends in the predominance of creative activities of enterprise personnel, together with the intellectualization and replacement of routine operations with artificial intelligence, the accelerating informatization of the management processes of various objects based on big data and the use of blockchain technology, determine the relevance of the study of talent management to improve the ranking of the human capital of the national economy and the successful sustainable functioning of its subjects. There is no doubt that the main resource for economic entities of different levels in the post-industrial economy is a person; respectively, competent management of human resources should be the basis of the policy of both private and state-owned companies. Of particular importance in this policy is certainly the system of talent management as particularly significant, effective employees.

## **2. Problem Statement**

The task of developing human capital in the era of accelerating positive digital transformation of the information component of global development is inextricably linked with the scientific research, updating and improving digital methods of talent management at the global, national, organizational and personal levels. Effective talent management in any socio-economic system is the key to its sustainable development, acting as a key factor of competitiveness, creating additional enterprise value and generating a competitive advantage for the entire national economy.

## **3. Research Questions**

Despite the numerous definitions of human capital and talent management in the scientific literature, it is necessary to recognize their controversial nature and the need for clarification.

The vector of the most competent human resource management dictates the requirements for reforming the provisions of the sources of Russian labor legislation, which, of course, is also the most relevant issue considered in this article.

Solving the issue of effective talent management requires the development of criteria and an integral formula for assessing the impact of talent management, taking into account the impact of information technologies and the specifics of the functioning of digital economy objects.

The study also raises the issue of developing an integral formula for assessing the impact of talent management in the digital economy, which is an adjustment of traditional indicators of human capital development.

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

The goal of the research is to reveal digital methods of talent management as a tool for the development of human capital by developing criteria and an integral formula for their evaluation, based on the initial idea of developing and implementing staff motivation algorithms using artificial intelligence and the methodology of a system-targeted approach.

#### **5. Research Methods**

In the course of the presented study of digital aspects of talent management as a tool for the development of human capital, theoretical and empirical research methods were used. In terms of theoretical research methods, in the study and aggregation of criteria for digital talent management and human capital development, the following methods were used: system and system-target approaches, induction and deduction, analysis and synthesis, formalization and mathematization. Empirical research methods were used in the form of observation, as an organized and purposeful study of facts, which provided an opportunity to obtain initial material for the development of the research topic by studying modern domestic and foreign scientific materials in the field of economics, information technology and law.

#### **6. Findings**

As part of this research, it is advisable to conduct a retrospective of scientists' views on the term "talent management", which was initially understood more narrowly – as the development of employees' creativity and involvement in the innovation process by setting priorities for all systems and resources of the organization (Watkins, 1998).

The term "talented employee" or simply "talent" is not unambiguous. This concept is multifaceted, but generalizing this quality for all areas, HR talents have come to be understood as employees who have the most relevant long-term interests of the organization (Schuler et al., 2011). Various approaches to the definition of talent, as well as the process approach and strategic talent management, were considered in (Balcerzyk & Materac, 2019).

The war for talent is a challenge for all companies, and for those that will respond actively and quickly, it is also a huge opportunity to create a competitive advantage (Michaels et al., 2001). Digital aspects of talent management and their classification are presented in (Saputra, 2020). Questions of the balance between people and technology, including in the field of AI at a high level, are discussed in the book (Wiblen, 2021). An analysis of the challenges faced by organizations in implementing digital transformation due to the lack of digital talent was conducted in (Nair, 2019). The book (Greene, 2020) examines new factors in talent management, including the "gig economy" and globalization. Global talent management, including the use of artificial intelligence that minimizes the human factor, is considered in (Khoreva et al., 2019). It should be emphasized that atomization, the opposite process of globalization, in the digital age, even more dictates increased requirements for the digital transformation of the individual, forming trends to increase competitiveness in creative activities.

An important direction in the development of talent management in the digital economy should be considered to increase the efficiency of the functioning and overall transformation of the education system in accordance with revolution industry 4.0 and positively affect individual innovative behavior (Nofrita et al., 2020). The competitiveness of the national economy largely depends on the active development of human capital, which is observed all over the world. The education system is designed to increase the efficiency and competitiveness of the country's human capital in the context of improving information and communication technologies, which implies the transformation of this system. It is necessary to consider the transformation of education in relation to human capital. Significant categories that characterize the change in the education system in the digital economy in relation to the traditional assessment of the level of human capital development are presented in Table 1.

**Table 1.** Categories that characterize the relationship between the transformation of the education system and the assessment of human capital development in the digital economy

Human capital assessment	Transforming education
Efficiency of investment in human capital (taking into account the time factor)	Integral indicator of the effectiveness of education (taking into account the time factor)
Human life cycle	Duration of training at different levels of education
Indicators of complexity, efficiency and quality of work	Education quality indicators
Wages	Income of educational service providers
The speed of adaptation of human capital to the requirements of a changing external environment	The speed of adaptation of the education system to the changing external environment

For each of the paired variables, it is necessary to determine the strength of the correlation relationship, for which we recommend calculating the Pearson correlation coefficient. In order to further analyze the degree of correlation to obtain a reasonable conclusion about the mutual influence of the transformation of the education system and human capital at the level of the national economy, we recommend using various methods of multidimensional approximation.

For the purposes of the study, it is necessary to determine the content of the category "human capital", which certainly has its own characteristics associated with the development of the process of digitalization of the economy. Analyzing the approaches to the category of "human capital" at the country, organizational and personal levels, the following definition can be given. Human capital in the digital economy is the resulting indicator of total investments in the socio-economic system aimed at the accumulation of knowledge, health promotion, development of professional qualities of a person, in the conditions of improving information and communication technologies and his ability to adapt to the digital environment. This also includes the realization of his abilities to participate in network interaction in order to generate income, social effect and activation of motivation for further improvement.

It seems that at present it will be relevant to define the concept of "talent management" as a strategic basis for the entire system of human capital development, a set of measures in the field of labor relations. This is aimed at providing modern workplaces with competent personnel in the digital economy, attracting, adapting, motivating, training, succession planning, retaining talented employees, including the processes of managing such employees.

The talent management system in the digital economy is represented by such elements as recruitment and attraction, evaluation, training, motivation, retention, organization of their work and management of talented employees, formation of a talent pool of talented employees. Within the framework of talent management activities, the most valid are such digitalization opportunities in systems of enterprise personnel management as HR-robotics, artificial intelligence, big data systems, blockchain technologies and neuro-networks. Already, artificial intelligence systems make a significant contribution to the assessment of the compliance of personnel with the requirements set by the employer, including the promotion of an employee. Blockchain technologies help to practically eliminate the distortion of information not only about the employee's work activity, but also based on the analysis of big data databases, almost all of his achievements in the course of life.

Improving the legislative regulation of talent management at the state level is necessary for the creation and functioning of the digital space and their effective development. The Labor Code of the Russian Federation can be singled out as a significant legislative act for the specified purposes of developing talent management. It is necessary to highlight the provisions of the Russian labor legislation that need to be reformed, taking into account the most competent management of human resources and allowing to create an effective optimal talent management system that will have a positive impact both on the competitiveness of organizations and on the sustainable development of the economy of the entire national economy.

However, not all provisions of the Labor Code of the Russian Federation allow to follow this approach, and even hinder the effective development of the talent management system. The following provisions are extremely inefficient in the context of digitalization of talent management and increasing the flexibility of the labor market, they do not allow employers to establish a working system of human resources and talent management:

- 1) cases of concluding a fixed-term employment contract are too strictly regulated (Article 59 of the Labor Code of the Russian Federation);
- 2) temporary and financially costly mechanisms for changing and terminating an employment contract;
- 3) conditions of training and development, salary and motivation should be individualized depending on the effectiveness of employees;
- 4) provision of employers with opportunities for the introduction of digital technologies.

In the context of the development of information technologies that influence the transformation of the traditional economic system into a digital format, there are requirements for the formation of new criteria for evaluating talent management in the system of human capital development.

In the basis of the proposed system of criteria for evaluating talent management, without denying the existing evaluation systems that operate in practice, we consider it appropriate to introduce, taking into account the specifics of the functioning of objects in the digital economy, such criteria as: digital heuristics; digital economic freedom; sociability in the field of network interaction; digital mobility; continuity of the process of obtaining knowledge; ability to apply digital technologies; adaptation to innovations in digital technologies; temporal characteristics.

In accordance with the disclosed topic of the article, we propose an enlarged formula for evaluating talent management in the system of human capital development in the digital economy, based on the adjustment of traditional assessment systems:

$$\text{HTMCDE} = \text{HTMCA} + \text{HTMCCDE}, \quad (1)$$

where HTMCDE – indicator for evaluating talent management in the human capital system in the digital economy;

HTMCA – traditional assessment of talent management in the human capital system;

HTMCCDE – indicator that corrects the traditional assessment of talent management in the human capital system, reflecting the impact of the digital economy.

At the same time, we propose to calculate an indicator that corrects the traditional assessment of human capital, reflecting the impact of the digital economy, approximately as follows:

$$\text{HTMCCDE} = \text{DH} + \text{DEF} + \text{CFN} + \text{DM} + \text{KAP} + \text{DT} + \text{AIDT} + \text{T}, \quad (2)$$

where DH – digital heuristic;

DEF – Digital economic freedom;

CFN – communication skills in the field of network interaction;

DM – Digital Mobility;

KAP – continuity of the process of obtaining knowledge in the digital economy;

DT – ability to apply digital technologies;

AIDT – Adapting to Digital innovation;

T – temporal characteristic.

An increase in the digital economic freedom index of the national economy's human capital encourages an influx of highly qualified workers to this country, which allows for the "attraction" effect, which is expressed in creating a favorable image of the state as a guarantor of competitive development, and a fair assessment of the knowledge of employees in their professional activities.

The developed criteria will allow adapting existing methods and tools for assessing human capital to the requirements of the modern digital economy.

## 7. Conclusion

Thus, the digital methods of talent management considered in the article, investigated for the development of human capital, the author's definitions of human capital and talent management, the developed criteria for evaluating talent management in the system of human capital development in the digital economy will increase the efficiency and stability of the functioning of almost all business entities in the conditions of digital transformation.

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