

## ORIGINAL PAPER



DOI: 10.26794/2304-022X-2024-14-4-35-52  
UDC 330.341.1(045)  
JEL O15, O32

# The Integrating Role of Digital Staff Maturity in a Balanced Digital Transformation Model

I.M. Stepnov<sup>a</sup>, M.Yu. Telegina<sup>b,c</sup>

<sup>a</sup>Financial University, Moscow, Russia;

<sup>b</sup>First Training Group LLC, Moscow, Russia;

<sup>c</sup>MGIMO University, Moscow, Russia

## ABSTRACT

The article is devoted to the theoretical and methodological substantiation of the integrating role of digital maturity of personnel in the processes of modern transformations of industrial enterprises. The subject of the study was the assessment of the role of company employees within the framework of the proposed balanced digital transformation (DT) model, and its purpose is to establish the relationship between the digital maturity (DM) of employees and methods of its formation, taking into account the priorities of a balanced DT. The methodological basis was the materials of works from the field of organizational institutionalism, applicable to solving the problems of managing digital transformations in industry. The results of the research, carried out using the methods of scientific analysis and synthesis, as well as processing the results of the survey and questionnaires, consist in the formation of new ideas about the model of digital transformation. The article reflects its features such as cyclical nature, the sequence of mandatory stages (formation of corporate digital culture, motivation of staff, practice-oriented mentoring, technology, data analysis and customer influence). As differences from existing approaches, the inclusion of the integrating role of digital maturity of personnel in the digital transformation (DT) processes and consideration of technologies and customer needs only after assessing the readiness of personnel in the formed digital environment is noted. The authors have formed recommendations for the practical implementation of the presented model of balanced digital transformation and the conduct of appropriate survey procedures that may be of interest to specialists in this field.

**Keywords:** digital economy; digital transformation; digital strategy; digital maturity; personnel; industrial enterprise

**For citation:** Stepnov I.M., Telegina M.Yu. The integrating role of digital staff maturity in a balanced digital transformation model. *Upravlencheskie nauki = Management Sciences*. 2024;14(4):35-52. DOI: 10.26794/2304-022X-2024-14-4-35-52

## INTRODUCTION

Before the COVID-19 pandemic, digital transformation (DT) in business was considered an advantage that enhanced functionality but was not a mandatory choice. However, in light of the severe changes brought about by the pandemic —including significant damage to the socio-economic development of many countries, disruptions in labor market mechanisms, shifts in traditional employment models, and other profound socio-economic transformations — DT has become a cornerstone of survival for many sectors of the economy [1]. Given that most consulting firms in Russia and abroad emphasize the necessity of DT tools in the post-pandemic world, real businesses are likely to significantly increase their investments in artificial intelligence (AI), augmented and virtual reality (AR and VR), the Internet of Things (IoT), and other emerging technologies in the coming years.

A direct confirmation of this trend is the significant increase in the market capitalization of Nvidia, a company specializing in AI-powered “superchips,” which has become the world’s most valuable company. In 2023, Nvidia’s market capitalization exceeded \$ 1 trillion; by March 2024, it reached \$ 2.6 trillion, and by October 2024, it had surged to \$ 3.4 trillion. This example illustrates growing investor interest in tech companies that can capitalize on AI<sup>1</sup> advancements. Compared to its financial results from January 2023, Nvidia’s revenue in January 2024 increased 3.7 times, while its net profit rose 8.7 times (see *Fig. 1*).

Thus, the exponential growth of these indicators over the analyzed period, along with the corresponding increase in market capitalization, not only highlights the success of Nvidia’s strategy in implementing the latest digital transformation (DT) technologies and its ability to adapt to a changing market but also proves the demand

for similar solutions among other market participants. The Nvidia example underscores that investors recognize significant growth potential in AI-driven companies. This recognition drives further investment and intensifies competition in the sector, ultimately fostering new developments and broader technological progress.

Alongside this trend, there is also a noticeable rise in the number of startups<sup>2</sup> operating in the VR and AR sectors. This is evidenced not only by increased funding requests from these startups but also by the growing number of office spaces occupied by such companies (see *Fig. 2*).

Speculations about AI’s impact — whether it will lead to increased unemployment and reduced opportunities for professional and personal development [2], create new jobs [3], improve disease diagnostics and drug discovery [4], expand learning and creative expression [5], or even serve as our conversational partner [6] — continuously attract the attention of not only the academic community but also the business sector and are widely discussed. However, according to anthropologist David Graeber [7], despite potential and expected contradictions, modern technologies are increasingly being used to encourage greater workforce participation rather than reducing labor demands. Many organizations are already working in this direction, actively engaging employees in digital business transformations, which fundamentally reshape both productivity and job responsibilities.

From this perspective, a crucial role in modern companies is assigned to digital transformation leaders — so-called Chief Digital Officers (CDOs) — as they are responsible for digital strategy and implementation. These executives play a key role in managing the integration of new technologies and digital innovations within enterprises. Effective leadership in digital transformation supports strategic thinking and adaptability in rapidly changing environments [8].

<sup>1</sup> Nvidia hits \$ 1tn market cap as chipmaker rides AI wave. Financial Times. URL: <https://www.ft.com/content/fd317e1b-0440-4840-bc0a-0aa35c776ffd> (accessed on 01.11.2024).

<sup>2</sup> DATA + AI PREDICTIONS. Snowflake. 2024. URL: <https://www.snowflake.com/data-ai-predictions/> (accessed on 01.11.2024).

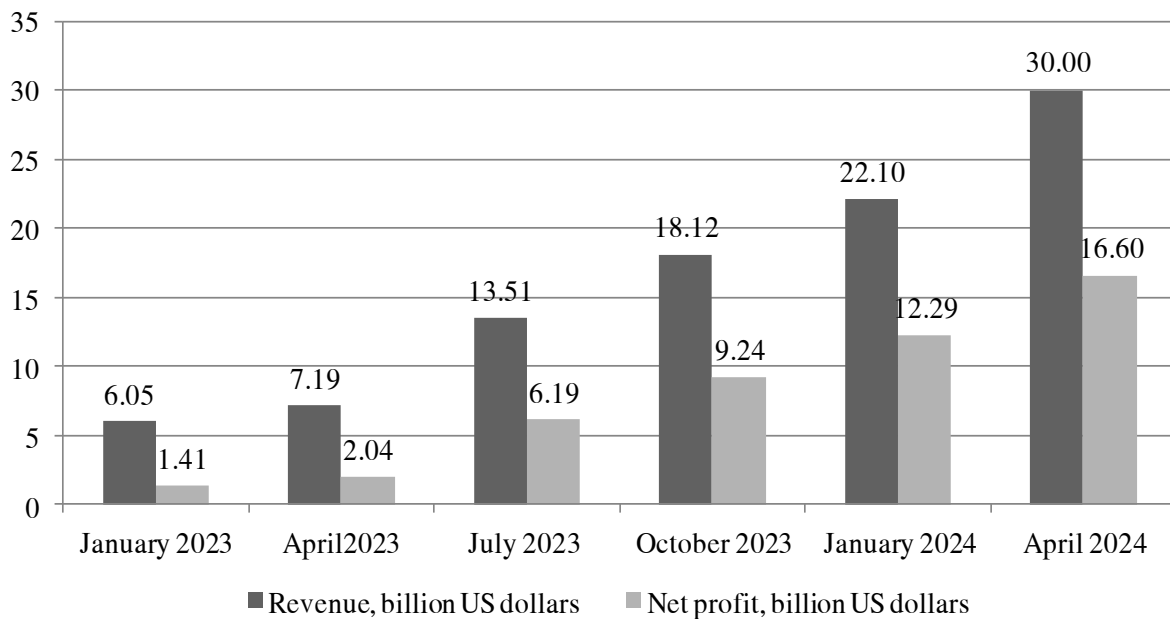


Fig. 1. Nvidia's financial results from January 2023 to April, 2024

Source: compiled by the authors based on Nvidia hits \$ 1tn market cap as chipmaker rides AI wave. Financial Times. URL: <https://www.ft.com/content/fd317e1b-0440-4840-bc0a-0aa35c776ffd> (accessed on 01.11.2024).

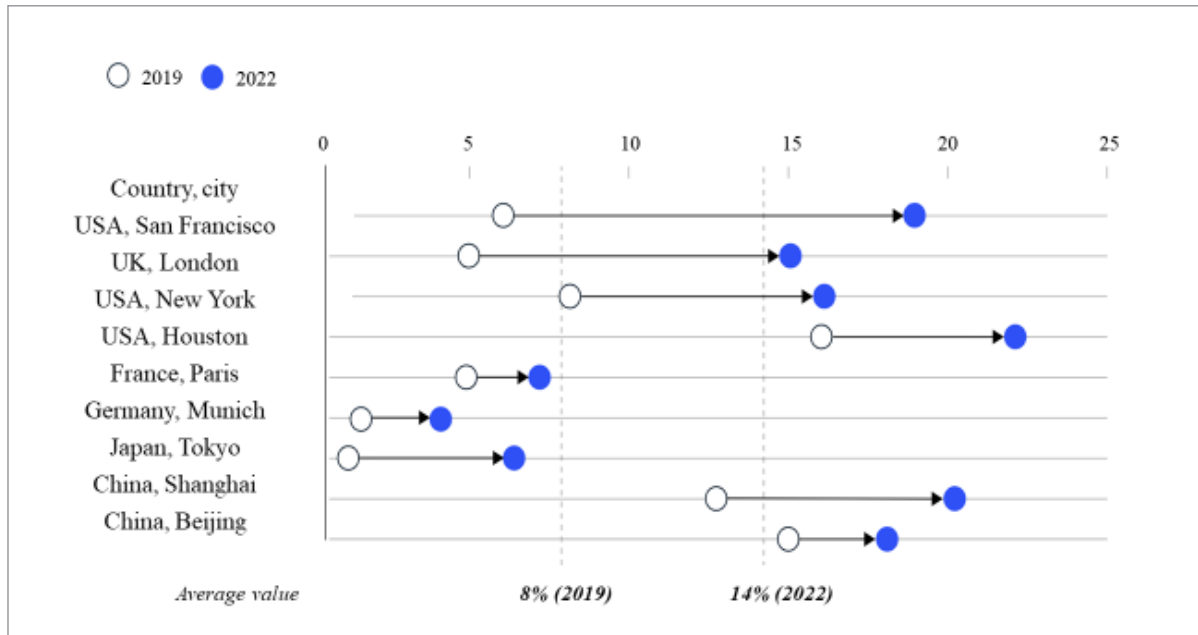


Fig. 2. The share of office space remaining vacant in the post-pandemic period, %

Source: compiled by the authors based on McKinsey Global Institute Report "Empty spaces and hybrid places: The pandemic's lasting impact on real estate" / 13.07.2023 / URL: <https://www.mckinsey.com/mgi/our-research/empty-spaces-and-hybrid-places> utm\_source=Franchising.com&utm\_medium=referral&utm\_campaign=Franchising.com-Article#/ (accessed on 01.11.2024).

Today, leading Russian companies such as Russian Railways<sup>3</sup> (RZD), Sberbank,<sup>4</sup> Yandex,<sup>5</sup> Severstal,<sup>6</sup> and others have already appointed CDOs. Their primary task is to ensure the successful use of digital technologies to enhance business process efficiency, improve customer experience, and achieve strategic objectives.

However, although the role of Chief Digital Officers (CDOs) is extremely important, the success of their efforts depends on many factors [9]. Some companies achieve success by hiring qualified specialists who effectively implement innovative solutions and reform business processes, while others face challenges [10]. Negative consequences may arise when implementing digital strategies if employees are unprepared for change or resistant to innovation [11].

While not all CDOs manage to fulfill their objectives and successfully lead the digital transformation of their organizations — ensuring market leadership and sustained success — a more advanced digital culture within companies is a crucial aspect of balanced business development, both today and in the future. Built through employee training in new skills and encouraging staff to adopt digital innovations, digital culture will become a top priority for organizations in the coming decade to adapt to rapidly changing market conditions and maintain competitiveness. Analyzing a company's digital culture begins with assessing the digital maturity (DM) of its workforce, which, in turn, cannot be achieved in isolation from the chosen digital transformation

model. This research question is the central focus of this article.

The need to implement an assessment of personnel digital maturity in domestic conditions is also driven by the necessity for the development of Russian society, as emphasized in the Decree of the President of the Russian Federation No. 309 “On the National Development Goals of the Russian Federation for the Period up to 2030 and the Prospects until 2036” dated 07.05.2024.<sup>7</sup> This decree includes the objective of “achieving by 2030 the digital maturity of state and municipal administration, key sectors of the economy, and the social sphere — including healthcare and education, which entails the automation of most transactions within unified industry-specific digital platforms and the adoption of a data-driven management model, taking into account the accelerated implementation of technologies for processing large volumes of data, machine learning, and artificial intelligence”.<sup>8</sup>

## RESEARCH METHODOLOGY

The choice of research methodology is based on the authors' perspective regarding the role of digital maturity of personnel within a balanced digital transformation (DT). This approach considers three key premises:

- *achieving and maintaining a high level of digital literacy among employees*, as such skills are becoming an integral part of the work environment and determine an employee's ability to effectively use digital technologies for professional tasks.
- *flexibility in adopting technological innovations*, which is essential in the context of digital transformation. This requires employees not only to be open to change but also to adapt to new technologies and processes.

<sup>3</sup> Russian Railways Digital. Digital transformation of railway transport. URL: <https://rzddigital.ru/> (accessed on 02.11.2024).

<sup>4</sup> Digital corporate bank. URL: <https://developers.sber.ru/kak-v-sbere/teams/dcb?ysclid=m2edop68zt852546402> (accessed on 02.11.2024).

<sup>5</sup> Yandex's mission is to help people solve problems and achieve their goals in life. Yandex (official website). URL: <https://yandex.ru/company/main> (accessed on 02.11.2024).

<sup>6</sup> Severstal and VK have become partners in the digitalization of personnel processes. Severstal (official website). URL: <https://severstal.com/rus/media/archive/-severstal-i-vk-stali-partnerami-v-tsifrovizatsii-kadrovykh-protsessov-/> (accessed on 02.11.2024).

<sup>7</sup> Decree of the President of the Russian Federation No. 309 “On the national development goals of the Russian Federation for the period until 2030 and for the future until 2036” from 07.05.2024 <http://pravo.gov.ru/proxy/ips/?docbody=&firstDoc=1&lastDoc=1&nd=606911096>

<sup>8</sup> Ibid., paragraph 8, paragraph a



- *integration of digital processes across all areas of business through trained personnel*, enabling enterprises to become more efficient and competitive. This is achieved through a DT strategy that outlines concrete steps for integrating digital technologies into all aspects of operations. The use of integrated platforms, including “digital labor platforms” [12], within a unified digital space helps organizations achieve their transformation goals.

It should be noted that employees will not be able to adopt the mechanisms and tools of digital transformation (DT) without possessing digital literacy —therefore, digital literacy is the foundation for forming digital culture and digital maturity (DM) as a whole. To understand how to develop a digital strategy, it is necessary to assess the professional level of employees, as well as their interests and needs.

The methodological foundations of such a strategy are based on the application of new applied concepts of organizational institutionalism, which allow for the identification of the relationship between digital mentoring (transformational leadership) and organizational flexibility, influencing DT in general and the digital strategy in particular, acting as a catalyst for digital transformations. These interdisciplinary concepts are most notably reflected in two theories of English scholars — organizational institutionalism [13] and new organizational institutionalism [14], which have sparked significant discussions among Russian authors [15–17] concerning the application of tools such as “organizational field” [18] and “institutional complexity” [19].

Organizational institutionalism represents a complex of political, normative, and technological changes (which most organizations face) with an emphasis on radical organizational transformations and adaptation to central research issues. In addition, proponents of this approach study the processes through which individual companies preserve, adopt, or reject patterns based on the institutionalized nature of organizational changes.

According to our approach, digital transformation is a significant organizational change.

In turn, new organizational institutionalism is typically used to understand organizational changes associated with the implementation of advanced technologies, by studying the influence of external factors on the practice and culture of the organization (with an emphasis on its socio-cultural aspects) through two approaches:

- through the relationship between stagnation and change, continuity and homogeneity, as well as change and heterogeneity among organizations.
- by perceiving stagnation and change as the results of planning, structuring, operational activities, and specific actions at multiple levels of analysis, including the social, field, organizational, and individual levels.
- the establishment of multiple levels of complexity and the concept of “field” provides a more structured understanding of the category of “unified information space” [20], particularly in relation to organizational culture (including digital culture), which, in our opinion, is becoming a modern institution, despite criticism from some researchers regarding the separation of this institution [15].

At the same time, many business leaders, ignoring the principles of organizational institutionalism theory, are currently rushing to invest in large-scale technological digital transformation (DT) in hopes of breakthrough results. This leads to costly failures, executive resignations, staff reductions, and a strategy of returning to basics, where digital efforts are relegated to a secondary priority, remaining at the pilot project stage. Business structures that attempt to engage in the DT process without ready plans and digital strategies, and without accounting for the need to improve the digital literacy of their personnel, face difficulties in adapting to technological changes [21, 22]. The reason for this is the growing gap between theory and reality, accompanied by even larger contradictions between strategy and

its implementation. In most cases, companies fail in their DT efforts if they begin with technological changes without creating comprehensive plans and developing a series of sequential steps. To avoid such situations, digital leaders must ensure that their enterprises develop the digital mindset and flexibility needed to respond to challenges related to digital innovations. To do so, they need to: study the relationship between organizational flexibility within their companies and mentorship in the context of DT (including the impact of this relationship on digital transformation); prepare a workforce-oriented digital strategy and determine its impact on organizational flexibility and the success of digitalization within the chosen DT model.

### CONCEPTUAL REPRESENTATION OF A BALANCED DIGITAL TRANSFORMATION MODEL

In our view, the success of digital transformation (DT) can be achieved through the use of two tools: regular employee and management surveys to identify current DT issues and employee needs, as well as adherence to the sequential stages within our proposed balanced DT model for a seamless transition to digital maturity. It should be noted that the components of the model are integrated into a cohesive whole through the regular assessment of digital maturity (DM).

By digital maturity, we mean the organization's ability to successfully integrate digital technologies and processes across all aspects of its operations to leverage advanced digital tools and systems, a deep understanding of the needs and requirements of employees, as well as the potential of both existing and new technologies for their optimal application to improve productivity, reduce costs, and enhance product quality and customer service. Therefore, an industrial enterprise with high digital maturity is characterized by:

- successful integration of digital technologies such as IoT, data analytics, AI, and process automation.

- a sustainable digital culture, characterized by the widespread dissemination of digital skills among employees, active use and promotion of digital tools and approaches by staff, and encouragement of a continuous learning and development mindset;

- flexibility in decision-making and openness to innovation, where the company is able to respond promptly to changes in the digital environment, is ready for rapid business adaptation, and actively explores new technologies and approaches to maintain its competitiveness;

- a safe and modern production system, whose efficiency is regularly improved; full employee engagement and loyalty; Improved product quality and customer service, as well as increased competitiveness in the market.

To address the complex issues of digital transformation (DT) in industrial companies, a conceptual model is proposed that ensures the balance of digital transformation through the sequential (cyclical) formulation of goals and determination of corresponding priorities. Within this model, priority attention is given to aspects of organizational development such as corporate culture, motivated personnel, practice-oriented mentorship, relevant data, modern technologies, and loyal customers (*Fig. 3*).

Unlike traditional models [23, 24], which often focus on technologies or economic indicators, the model we propose includes corporate culture, including employee motivation, recognition of their involvement in transformation processes, and their impact on productivity (which required the use of the organizational institutionalism theories mentioned above).

This model is qualitative and serves as the subject of narrative analysis in economics [25]. Its core solution is not only the choice of corporate culture as the starting point but also the integration of practice-oriented mentorship and relevant data. This creates conditions for continuous learning and adaptation to change. The distinctive feature of the proposed model lies in its comprehensive approach

to developing its structure — every element is cyclically interconnected and influences the overall outcome. Thus, by using this model, companies can achieve more harmonious and sustainable digital leadership, approaching transformation with consideration for the human factor and long-term goals.

Let's highlight the basic terms used in the proposed model:

- Digital Transformation (DT) Strategy — a long-term plan defining how the enterprise will use technologies to improve its business processes, create new products and services, enhance customer service quality, and increase competitiveness.

- DT Mentorship — the ability of the organization's leadership to effectively manage digital transformation, which involves understanding technological trends and their potential for improving business processes, as well as being open to change and innovation. A key component of DT mentorship is promoting a culture that encourages the use of technologies and supports employees working with them.

- DT Mentor — a new type of top manager responsible for developing and implementing the company's DT strategy, possessing not only technical knowledge but also strategic vision, the ability to manage change and teams, as well as the capability to adapt to rapidly changing market conditions.

The DT Mentor plays a key role in this model. He serves as both a catalyst and organizer of digital transformation. First and foremost, he must not only understand current technological trends but also anticipate how these trends should be integrated into the organization's existing business processes to improve efficiency. These skills allow him to develop and adapt the DT strategy, paving the way to a digital future that aligns with the company's unique needs and goals. Secondly, the DT Mentor must be capable of effectively managing DT processes, creating both a technical vision and a culture that supports innovation and openness to change. In this way, the DT Mentor helps

create an environment where staff feel supported and motivated to work with new technologies.

Given the characteristics of industrial companies, the DT Mentor must quickly adapt to demands and challenges, consider the specifics of the regional market and business environment, and integrate aspects important for a particular location into the DT strategy. He can also actively work on fostering a culture of innovation and digital thinking within the organization.

### FEATURES OF THE COMPONENTS OF THE CONCEPTUAL MODEL OF BALANCED DIGITAL TRANSFORMATION

Let us turn to the features of each component of the balanced DT model (Fig. 3).

#### *Corporate Culture*

The role of corporate culture in achieving digital leadership within a company is studied by scholars such as E. Schein [26], P. Senge [27], J. Katzenbach, and others [28]. It is quite likely that the existing culture and structure of many companies are not suitable for implementing digital transformation. Therefore, when developing a DT strategy, the following aspects play an important role in achieving digital leadership:

- analyzing the current culture and structure of the organization. This needs to be conducted to understand how ready employees are for change and the degree of support from management. This can be done through surveys and interviews, as well as by studying company data, such as employee satisfaction levels, the number of support requests, and so on.

- helping employees gain the necessary knowledge and skills. These skills will be essential not only in theory but also in practice. To achieve this, it is necessary to analyze the existing competencies of employees and determine what knowledge and skills they need for the successful implementation of DT. After this, individual training and development plans can be created for team members to prepare them for the expected future changes.

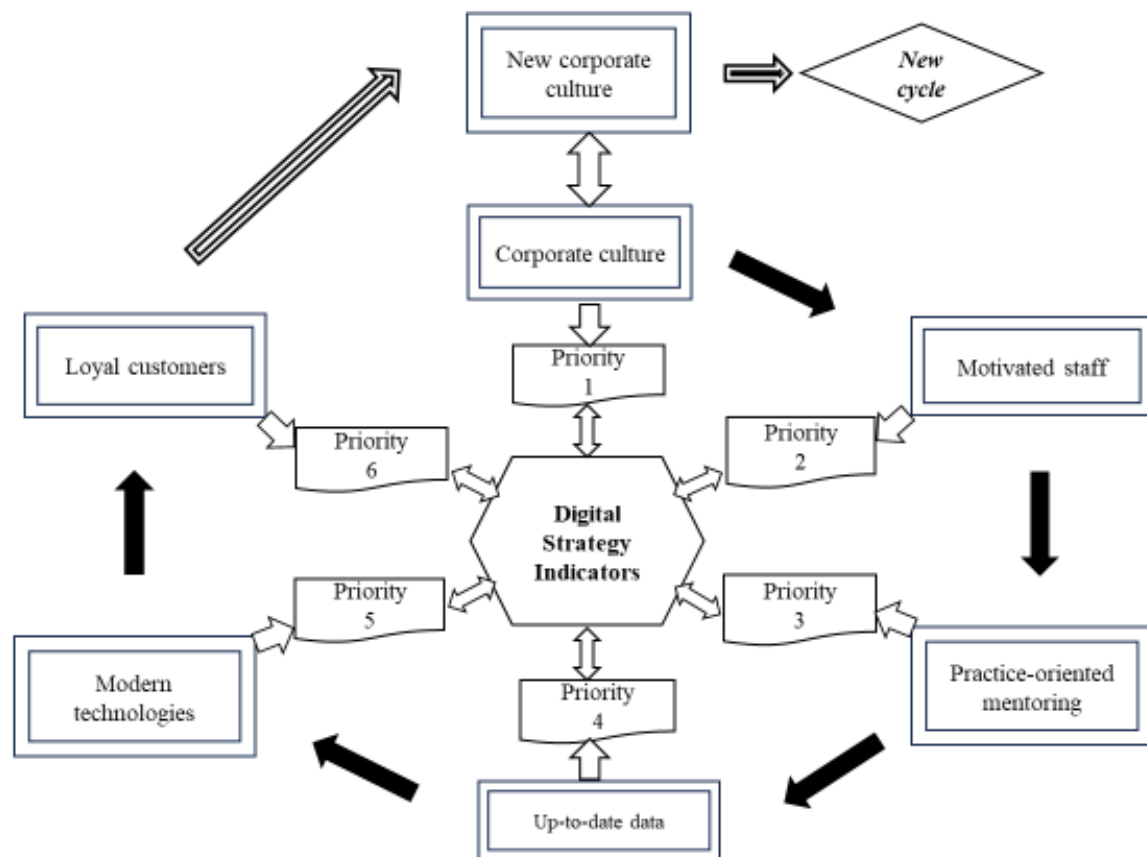


Fig. 3. A conceptual model for ensuring the balance of digital transformation

Source: developed by the authors.

- improving communication within groups. To ensure more effective collaboration both within individual teams and across the entire company, it is necessary to identify which communication tools will be most effective for each specific group and create a plan to ensure regular interaction between employees.

It is worth noting that if it is found that the existing culture and structure of the organization are not suitable for the implementation of digital transformation, appropriate actions should be developed and implemented to adjust the business model, revise processes and roles, provide individual training for employees based on specific business tasks, and so on.

#### *Motivated Personnel*

Researchers E. Brynjolfsson and E. McAfee [29] believe that to achieve digital leadership, compa-

nies need to develop their employees' technical and analytical skills, while economist M. Porter is convinced that a strong and motivated workforce is key to success in the digital world [30]. In our opinion, achieving success in digital transformation requires a detailed study of the employees' competencies, including evaluating the impact of employees' digital workspaces on effectiveness and the moderating role of digital leadership skills [31].

Among the tasks related to ensuring the necessary motivation for employees, the following should be included:

- creating digital transformation (DT) teams consisting of specialists from various fields to help employees better understand the interconnections between different processes and technologies;



- using interactive technologies, such as virtual simulators, where employees can practice using new tools and technologies in a gamified format. This will facilitate the application of new knowledge and skills in practice in a safe and controlled environment;
- organizing internship programs for employees, allowing them to gain hands-on experience with new technologies and tools, both within the company and in collaboration with external partners and suppliers;
- regularly conducting surveys to gather feedback from team members regarding the implementation of digital transformation. This will help identify issues and address them at an early stage, preventing resistance to change;
- creating a motivation and incentive system that encourages the use of new technologies.

#### *Practice-oriented mentoring*

According to John Kotter [31] and Jim Collins [32], special attention is paid to mentoring when managing the change process within a company. We also believe that digital transformation (DT) should be initiated by the top management of the enterprise and supported by them. Therefore, it is necessary to ensure mentoring that actively supports DT and initiates changes in the culture and structure of the company — the so-called “DT mentoring.” Organizing this requires a shift in the focus of organizational culture. Leaders need to decide how to train employees on the technologies and processes outlined in the DT strategy, so they can later motivate them to apply the new tools by leading by example.

#### *Relevant data*

Researchers T. Davenport and C. J. Hogue [33] believe that using data at the company-wide level is a key factor in achieving digital leadership. In our opinion, companies aiming for digital leadership should assess what information is necessary for making business decisions, and how it can be collected, processed, and analyzed. For the effective use of data, management must create a culture that recognizes it as a key asset of the company. Employees need to understand that

information is a valuable resource, and its use is a priority in terms of deriving benefits and achieving efficiency not only for the company but also for each individual.

#### *Modern Technologies*

G. Hamel [34], V. Mayer-Schoenberger, and K. Kuckier [35] believe that modern technologies, data analytics, and machine learning can help companies create new business models and achieve digital leadership.

#### *Loyal Customers*

In our opinion, digital transformation should primarily focus on customers and enhancing their experience with the company. Therefore, it is recommended to assess which changes can increase customer satisfaction and how the company can improve its digital experience.

In the context of the proposed model, ensuring balance, it is important to note the significant role of each component in the overall digital transformation of the company. Excluding even one of these components could negatively affect the results and effectiveness of the company's operations, leaving no prospects for achieving technological excellence.

Thus, the “Corporate Culture” component defines how the company encourages the use of technologies and provides support to employees working with them. Without a proper digital culture, the company may not receive the necessary support to implement digital transformation.

The “Motivated Personnel” component defines the role of staff in the digital transformation process, their knowledge, experience, and capabilities. If the company does not provide its employees with the necessary skills, it may lead to ineffective digital transformation implementation (or it may not happen at all).

The “Practice-Oriented Mentorship” component highlights the need for targeted professional guidance and a strategic vision for the implementation of the company's digital transformation. If leaders are not ready for change, digital transformation may become complicated, inefficient, or even unattainable.

The “Relevant Data” component addresses the role of data in digital transformation, its collection, analysis, and use. If the company fails to work productively with information, it will lead to partial loss of data and inefficient use of technologies.

The “Modern Technologies” component determines the role of technologies in digital transformation, their selection, implementation, and application. If the company makes a mistake in choosing technologies, it could result in ineffective digital transformation implementation.

The “Loyal Customers” component reflects the company’s focus on meeting customer needs and creating products and services that meet their expectations. If this component is excluded, the company may lose its competitiveness and customer base.

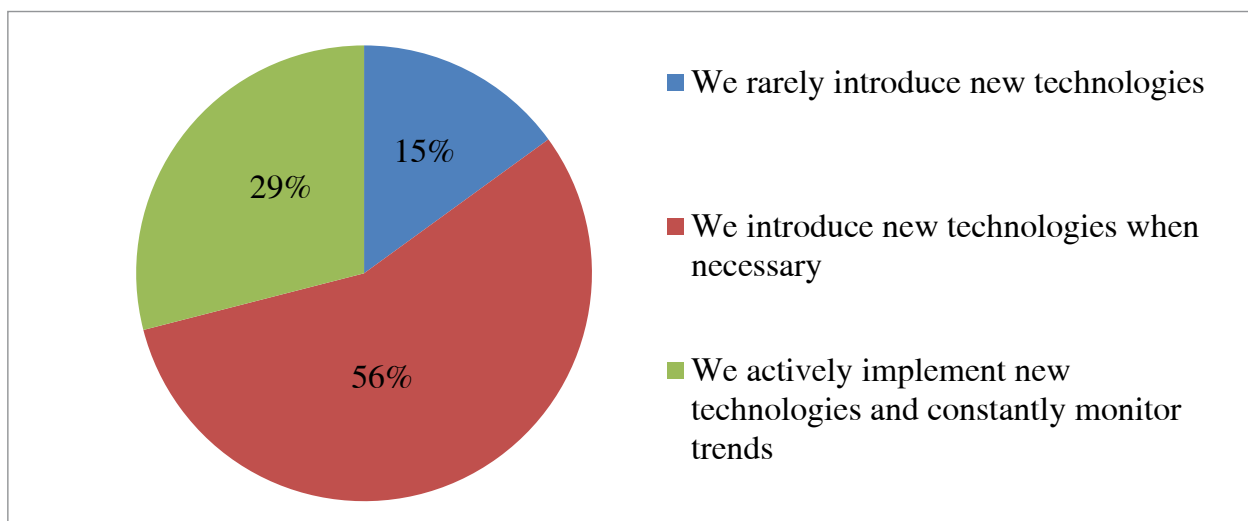
Thus, all components of the proposed model are essential and interconnected. Excluding even one of them can lead to disruptions in the functioning of the entire system. For example, without considering the needs and expectations of loyal customers, the company will not be able to develop products and services that are in demand in the market. The absence of practice-oriented mentorship and corporate culture that fosters the adoption of new technologies and innova-

tions can lead to falling behind competitors and losing market position. Additionally, the need for highly skilled and motivated personnel becomes increasingly apparent in the context of growing digital competition. In turn, without considering relevant data, the company will be unable to make informed and effective decisions, and without utilizing modern technologies, the company will struggle to compete effectively in the market and meet customer demands.

Staff Survey as a Condition for the Effective Functioning of the Digital Transformation Model

The model presented above has a cyclical nature, which hides significant feedback within its components for management purposes. This is why we consider conducting a survey to collect data (feedback) on the outcomes of changes as a condition for the effective functioning of the model.

The survey was initially designed to gather feedback from employees and managers of industrial enterprises (which have either already completed their digital transformation or are still in the process of digital business transformation) in order to study their experiences and perspectives regarding the effectiveness of work processes in this area. To increase the response rate, the survey



**Fig. 4. The frequency of introduction of new technologies in industrial companies of the EAEU countries**

Source: compiled by the authors.



could, for example, be developed and conducted in a digital format with elements of gamification, as represented on the Digital platform Happy Job<sup>9</sup> (patented by RAO), for research on employee engagement, loyalty, and satisfaction.

The survey involved employees from 102 industrial companies in the EAEU countries, which allowed the collection of empirical data based on case studies.

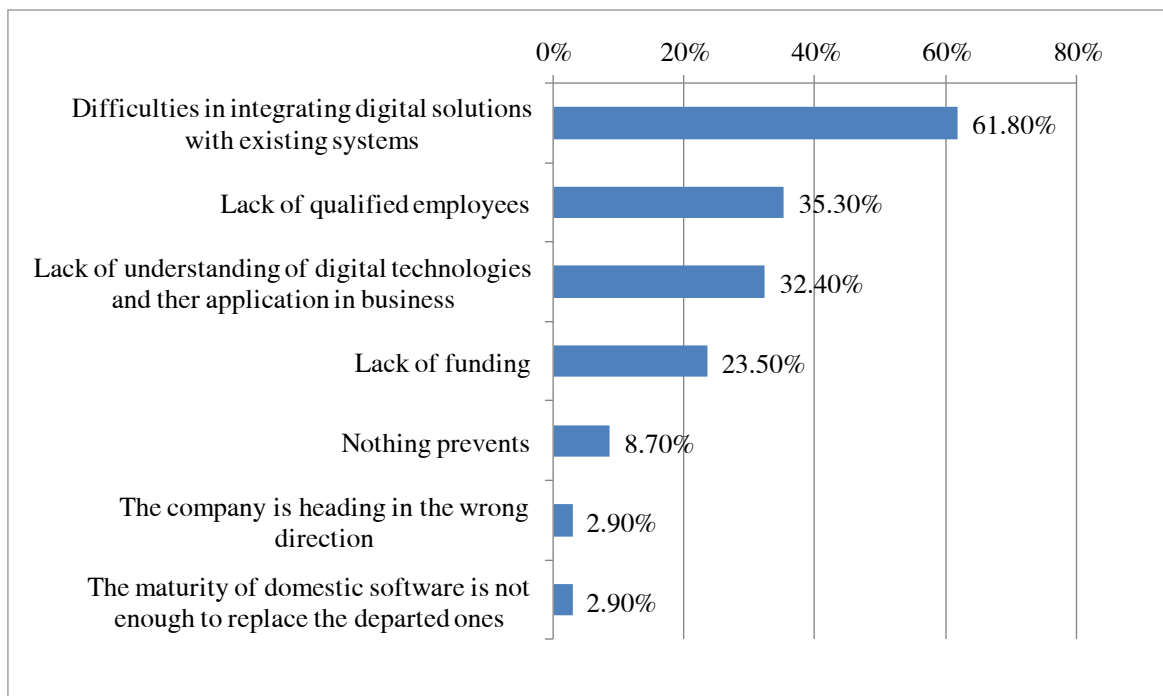
The survey consisted of 4 blocks (A, B, C, and D).

Block “A — Digital Maturity” — allows for the assessment of the current level of digital maturity of the company and can help identify how ready it is for digital transformation (DT) and how actively it is applying digital technologies in its operations. The information gathered through the survey can also be useful for identifying bottlenecks in the company’s digital strategy and finding solutions to improve it.

<sup>9</sup> Happy Job (official website). URL: <https://happy-job.ru/> (accessed on 21.09.2024).

According to more than half of the respondents, in their companies, the implementation of digital technologies occurs as needed (55.9%); moreover, a third of the organizations actively use innovations and constantly monitor current trends (Fig. 4).

It is important to note that the analysis of issues and solutions in the field of digital transformation (DT) and achieving digital maturity (DM) in the surveyed companies showed that most employees highlight the need for automation and optimization as key strategies for addressing DT challenges. At the same time, the percentage of employees who do not see any obvious problems is relatively low (8.7%), which may indicate limited awareness of DM issues in only some organizations. However, the indication of a shortage of qualified personnel (35.5%) points to the need for greater attention to the development of human resources in the DT process and efforts aimed at searching for and attracting talent (Fig. 5).



**Fig. 5. Problems that, according to personnel, hinder the achievement of digital maturity of industrial companies in the EAEU countries**

Source: compiled by the authors.

Block “**B – Risks and Security**” is aimed at assessing the company’s readiness to protect its data, as well as analyzing the threats that arise during digital transformations and the security measures planned or already implemented to prevent incidents.

The survey revealed a relatively low level of knowledge among both staff and management in the area of information security (Fig. 6).

Block “**C – Digital Transformation**” is designed to help both in identifying how successfully the company is implementing new digital tools (in terms of their benefits for business processes) and in evaluating the challenges that arise on the way to achieving and/or maintaining digital leadership.

In the survey conducted, in response to the question: “How would you assess the results of

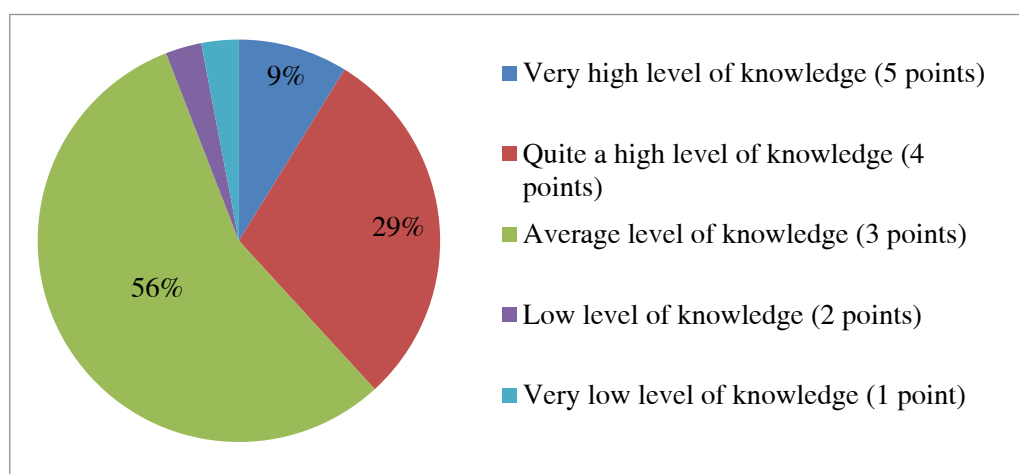


Fig. 6. Assessment of the knowledge of their colleagues in the field of information security by respondents representing industrial companies of the EAEU countries

Source: compiled by the authors.

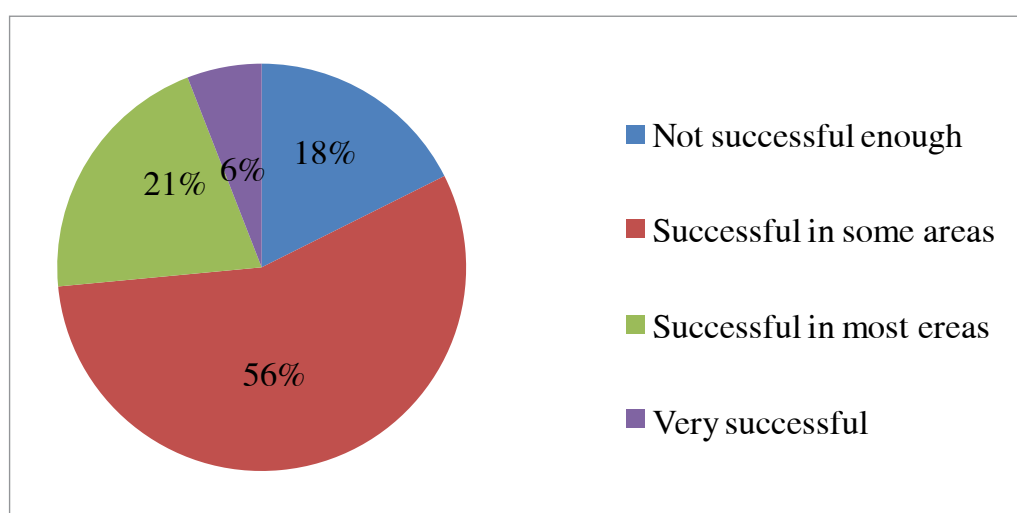


Fig. 7. Results of digital transformation of industrial companies of the EAEU countries according to the opinion of the staff

Source: compiled by the authors.

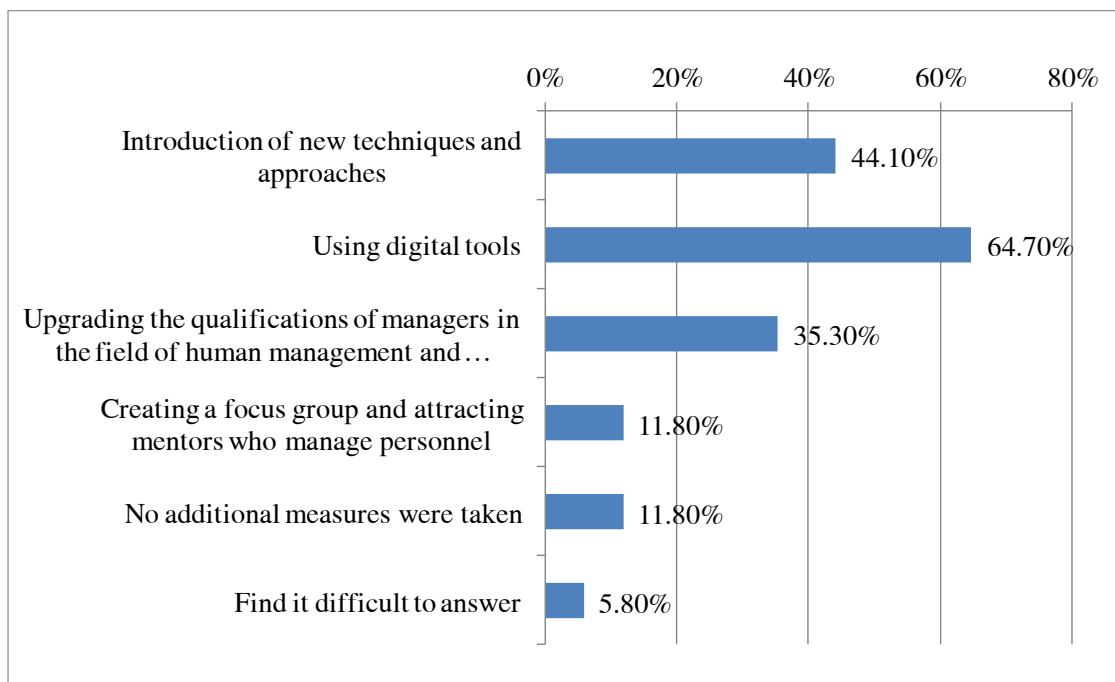


Fig. 8. Measures taken by industrial companies of the EAEU countries to improve the efficiency of personnel management processes

Source: compiled by the authors.

your company's digital transformation at this moment?", only 5.9% of respondents stated that they consider the results to be very successful, while 55.9% noted that the results of digital transformation in their organizations are successful only in certain areas (Fig. 7).

Block "D – Personnel" contributes to understanding how ready the company's employees are for changes related to the implementation of new technologies, what skills are necessary for employees and management to successfully adapt the company to innovations, and what challenges may arise when engaging employees in digital transformation.

Regarding the measures taken by industrial companies in the EAEU countries to enhance personnel management efficiency in the context of digital transformation, the following results were obtained (Fig. 8).

One of the outcomes of the survey was the identification of practices by the studied companies regarding the enhancement of personnel

management efficiency in the context of digital transformation (see the Table).

The distinguishing feature of the proposed survey is the anonymity of the respondents, which helps gather the most relevant feedback and provides the opportunity to identify areas for development in the first priority.

## CONCLUSION

The proposed balanced development model shows that achieving technological leadership in the context of digital transformation largely depends on the digital maturity of the staff, which, in turn, involves two key factors: digital culture and mentoring (or transformational leadership).

According to the hypothesis presented in the article, it is shown that, unlike popular concepts which suggest the start of digitalization from establishing customer needs and advancing technological solutions, it is within the framework of the balanced model that significant

Table

**Practices of industrial companies of the EAEU countries in matters of increasing the efficiency  
of personnel management processes in the context of digitalization  
and the consequences of their implementation**

Nº	Indicator	The share of the surveyed companies, %	Examples of tools	Consequence
1	Introduction of new techniques and approaches	44.1	Implementation of project management systems based on Agile principles; use of design thinking methods for solving business tasks; application of change management methods	Improvement of the company's flexibility and response to changes; faster implementation of innovations; reduction in time to implement new solutions
2	Using digital tools	64.7	Implementation of digital platforms for personnel management (e.g., HR platforms); use of online systems for performance evaluation; application of data analytics systems to monitor staff effectiveness	Automation of personnel management processes; increased accuracy of data analysis; improved decision-making based on actual data
3	Upgrading the qualifications of managers in the field of human resources management and digital technologies	35.3	Organizing training seminars and webinars for managers; courses on digital technologies for HR specialists; mentoring programs in digital technologies	Increase in managers' competencies; more effective management of digital processes; quick adaptation to new requirements
4	Creating a focus group and attracting mentors who manage personnel	11.8	Formation of groups for discussing digital initiatives; involving experts with experience in digital technologies to consult management and staff	Exchange of experience between digital leaders and management; development of more effective strategies for implementing digital innovations
5	No additional measures were taken	11.8	None	Retention of outdated management methods; high risk of falling behind competitors in the rapidly evolving digital technology landscape
6	Find it difficult to answer	5.8	Unknown	Difficulties in adapting to digital changes; lack of clear understanding of the necessity and effectiveness of the measures being taken

Source: compiled by the authors.

attention is given to the company's employees. This allows for a reevaluation of the theoretical and applied basis of digital transformation (DT) in terms of the importance of developing the organization's digital culture, thereby contributing new insights to the development of science.

The proposed approach allows us to argue that the formation of a digital culture under the management of a digital mentor ensures the best result for digital transformation, provided that feedback from staff exists (which, in our case, is implemented through surveys).

It is important to note that the tool we recommend also brings significant benefits not only to the company as a whole but also to each individual employee, due to the ability to express opinions about their work in the organization (management, colleagues, processes), assess their significance within the framework of digital transformation, and influence the improvement of processes within the company. All of this contributes to the balanced development of relationships within the team and enhances the importance of the skills and achievements of each individual employee.

## ACKNOWLEDGEMENTS

The article was prepared based on the results of research carried out at the expense of budget funds under the state assignment of the Financial University, Moscow, Russia.

## REFERENCES

1. Dekhanova N.G., Sushko V.A., Kholodenko Yu.A. Russia: The socio-economic impact of the COVID-19 pandemic. *Sotsiologiya = Sociology*. 2022;(2):120–133. (In Russ.).
2. Gobozov I.A. Digitalization of society and deintellectualization of a person. *Filosofiya i obshchestvo = Philosophy and Society*. 2021;(3):35–54. (In Russ.).
3. Ermolaeva Yu.V. Green jobs and COVID-19 challenges around the world. *Innovatsii i investitsii = Innovation & Investment*. 2020;(10):34–40. (In Russ.).
4. Gaifullin E.O. Artificial intelligence in medicine. *Ceteris Paribus*. 2023;(5):118–122. (In Russ.).
5. Mukhamadieva K.B. Artificial intelligence in the development of youth. *Obrazovanie i problemy razvitiya obshchestva = Education and Problems of Development of Society*. 2021;(2):27–33. (In Russ.).
6. Koshlyak A.D. Directions of application of artificial intelligence in modern psychodiagnostics. In: *Psychology in the space of education and personal development: Promising practices of scientific research and cooperation*. Kaluga: Kaluga State University named after K.E. Tsiolkovsky; 2024:197–201. (In Russ.).
7. Graeber D. *Bullshit jobs: A theory*. New York, NY: Simon & Schuster; 2018. 368 p. (Russ. ed.: Graeber D. *Bredovaya rabota. Traktat o rasprostraneni besmyslennogo truda*. Moscow: Ad Marginem Press; 2020. 420 p.).
8. Gerth T., Peppard J. How new leaders “fit in”. In: *Taking the reins as CIO: A blueprint for leadership transitions*. Cham: Palgrave Macmillan; 2020:43–59. DOI: 0.1007/978-3-030-31953-3\_3
9. Alekseev K.N. The impact of the role of CDO on the digital transformation of business. In: *The global economy in the 21<sup>st</sup> century: The role of biotechnology and digital technologies*. Moscow: Konvert; 2020:54–56. (In Russ.).
10. Osovitskaya N. *HR DIGITAL: Best employers practices*. St. Petersburg: Piter; 2022. 533 p. (In Russ.).
11. Akivaeva S.E., Kuchkovskaya N.V. Risks and opportunities of digital transformation for business. *Uspekhi v khimii i khimicheskoi tekhnologii*. 2023;37(1):6–9. (In Russ.).
12. Shevchuk A. Theorizing digital platforms: A conceptual framework for the gig economy. *Ekonomicheskaya sociologiya = Economic Sociology*. 2023;24(5):11–53. (In Russ.). DOI: 10.17323/1726-3247-2023-5-11-53

13. Greenwood R., Oliver C., Sahlin K., Suddaby R., eds. The SAGE handbook of organizational institutionalism. London: SAGE Publications Ltd; 2008. 840 p. DOI: 10.4135/9781849200387
14. Greenwood R., Oliver C., Lawrence T.B., Meyer R.E., eds. The SAGE handbook of organizational institutionalism. London: SAGE Publications Ltd; 2017. 928 p. DOI: 10.4135/9781526415066
15. Tambovtsev V. What can institutes do? Metaphors of the organizational institutionalism. *Voprosy teoreticheskoi ekonomiki = Theoretical Economics*. 2022;(2):22–38. (In Russ.). DOI: 10.52342/2587–7666VTE\_2022\_2\_22\_38
16. Nikitina D. Pointless labor, bullshit jobs, and organizational absurdity: New directions for institutional theory. *Sotsiologicheskoe obozrenie = Russian Sociological Review*. 2023;22(1):129–146. (In Russ.). DOI: 10.17323/1728–192x-2023–1–129–146
17. Frolov D.P. The future of pluralistic institutional theory. *Voprosy ekonomiki*. 2022;(4):45–69. (In Russ.). DOI: 10.32609/0042–8736–2022–4–45–69
18. Khorolceva E.B., Fedorova A.V. Risks of paradigm turns in the research of modern organizations. *Vestnik Povolzhskogo instituta upravleniya = Bulletin of the Volga Region Institute of Administration*. 2022;22(2):83–94. (In Russ.). DOI: 10.22394/1682–2358–2022–2–83–94
19. Tambovtsev V. Institutional complexity: Is it a new direction for institutional research? *Voprosy teoreticheskoi ekonomiki = Theoretical Economics*. 2023;(2):22–34. (In Russ.). DOI: 10.52342/2587–7666VTE\_2023\_2\_22\_34
20. Stepnov I.M., Kovalchuk J.A. Business ecosystem finance: Modern agenda and challenges. *Finance: Theory and Practice*. 2023;27(6):89–100. (In Russ.). DOI: 10.26794/2587–5671–2023–27–6–89–100
21. Bresciani S., Huarng K.-H., Malhotra A., Ferraris A. Digital transformation as a springboard for product, process and business model innovation. *Journal of Business Research*. 2021;128:204–210. DOI: 10.1016/j.jbusres.2021.02.003
22. Stefanova K., Kabakchieva D. Challenges and perspectives of digital transformation. In: Proc. Int. conf. “Information and communication technologies in business and education”. Varna: Science and Economics; 2019:13–23.
23. Abramov I.V. Conceptual model of digital transformation of manufacturing enterprises. *Teoriya i praktika obshchestvennogo razvitiya = Theory and Practice of Social Development*. 2023;(8):176–181. (In Russ.). DOI: 10.24158/tipor.2023.8.21
24. Nogovitsyn M.A. Approaches to developing a digital transformation model for the Russian economy in the context of global challenges. *Ekonomika i upravlenie = Economics and Management*. 2023;29(1):101–114. (In Russ.). DOI: 10.35854/1998–1627–2023–1–101–114
25. Volchik V., Panteeva S. Improving the Russian innovation system: combining model and narrative-based approaches. *Mir Rossii. Sotsiologiya. Etnologiya = Universe of Russia. Sociology. Ethnology*. 2024;33(1):163–186. (In Russ.). DOI: 10.17323/1811–038X-2024–33–1–163–186
26. Schein E.H. Organizational culture and leadership. San Francisco, CA: Jossey-Bass Publishers; 1992. 464 p. (Russ. ed.: Schein E.H. Organizatsionnaya kul'tura i liderstvo. St. Petersburg: Piter; 2002. 336 p.).
27. Senge P.M. The fifth discipline: The art & practice of the learning organization. New York, London: Doubleday Business; 1994. 448 p. (Russ. ed.: Senge P. Pyataya distsiplina: iskusstvo i praktika obuchayushcheisya organizatsii. Moscow: Mann, Ivanov and Ferber; 2018. 524 p.).
28. Katzenbach J.R., Thomas J., Anderson G. The critical few: Energize your company's culture by choosing what really matters. Oakland, CA: Berrett-Koehler Publishers, Inc.; 2019. 208 p. (Russ. ed.: Katzenbach J., Thomas J., Anderson G. Transformatsiya korporativnoi kul'tury: Vazhnye detali, bez kotorykh nichego ne rabotaet. Moscow: Intellektual'naya Literatura; 2020. 202 p.).



29. McAfee A., Brynjolfsson E. Machine, platform, crowd: Harnessing our digital future. New York, London: W.W. Norton & Co.; 2017. 416 p. (Russ. ed.: McAfee A., Brynjolfsson E. Mashina, platforma, tolpa. Nashe tsifrovoe budushchee. Moscow: Mann, Ivanov and Ferber; 2019. 476 p.).
30. Porter M.E. On competition. Boston, MA: Harvard Business School Press; 1998. 485 p. (Russ. ed.: Porter M. Konkurentsiya. Moscow: Williams; 2010. 592 p.).
31. Kotter J.P. Leading change: Why transformation efforts fail. Boston, MA: Harvard Business Review Press; 1996. 187 p. (Russ. ed.: Kotter J. Vpered i peremen: Kak uspeshno provesti organizatsionnye preobrazovaniya. Moscow: Alpina Publisher; 2019. 288 p.).
32. Collins J. Good to great: Why some companies make the leap... and others don't. New York, NY: HarperBusiness; 2001. 310 p. (Russ. ed.: Collins J. Ot khoroshego k velikomu: pochemu odni kompanii sovershayut proryv, a drugie net... Moscow: Mann, Ivanov and Ferber; 2011. 305 p.).
33. Davenport T.H., Kim J. Keeping up with the quants: Your guide to understanding and using analytics. Boston, MA: Harvard Business Review Press; 2013. 240 p. (Russ. ed.: Davenport T., Ho K.J. O chem govoryat tsifry. Kak ponimat' i ispol'zovat' dannye. Moscow: Mann, Ivanov and Ferber 2014. 280 p.).
34. Hamel G., with Breen B. The future of management. Boston, MA: Harvard Business Review Press; 2007. 288 p. (Russ. ed.: Hamel G., Breen B. Budushchee menedzhmenta. St. Petersburg: BestBusinessBooks; 2013. 276 p.).
35. Mayer-Schönberger V., Cukier K. Big Data: A revolution that will transform how we live, work, and think. Boston, MA: Eamon Dolan Books/Mariner Books; 2014. 272 p. (Russ. ed.: Mayer-Schönberger V., Cukier K. Bol'shie dannye. Revolyutsiya, kotoraya izmenit to, kak my zhivem, rabotaem i myslim. Moscow: Mann, Ivanov and Ferber, 2014. 310 p.).

## ABOUT THE AUTHORS



**Igor M. Stepnov** — Dr. Sci. (Econ.), Prof., Prof. at the Department of Corporate Finance and Corporate Governance, Financial University, Moscow, Russia

<http://orcid.org/0000-0003-4107-6397>

*Corresponding author:*

[stepnoff@inbox.ru](mailto:stepnoff@inbox.ru)



**Marina Yu. Telegina** — consultant, First Training Group LLC, Moscow, Russia; research assistant, MGIMO University, Moscow, Russia

<http://orcid.org/0000-0002-5314-883X>

[myutelegina@yandex.ru](mailto:myutelegina@yandex.ru)

*Conflicts of Interest Statement: The authors have no conflicts of interest to declare.*

*Article was submitted on 23.10.2024; revised on 06.11.2024 and accepted for publication on 12.11.2024. The authors read and approved the final version of the manuscript.*