



DIGITAL TRANSFORMATION IN INTERNATIONAL MANAGEMENT: HOW TECHNOLOGY IS CHANGING THE MANAGEMENT OF GLOBAL OPERATIONS

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Abstract

The article analyzes the impact of digital transformation on the management of global operations in international management, which is a key trend in the development of the modern economy. Digital technologies, such as big data, artificial intelligence, automation, cloud services, and blockchain, are fundamentally changing management approaches and creating new opportunities for international companies. The transformation helps to improve the efficiency of business processes, optimize management decisions and adapt to rapidly changing market conditions. Meanwhile, companies are facing challenges such as cybersecurity, resistance to change from employees, and the need to develop new competencies.

The purpose of the study is to examine the impact of digital technologies on the management of global operations and to develop recommendations for the successful adaptation of companies to the new conditions of the digital economy. To achieve this goal, several tasks were performed: a theoretical review of the concept of digital transformation and its role in international management was conducted, key digital technologies that affect operations management were studied, and the benefits and risks of implementing digital solutions in international companies were analyzed. The paper also examines successful examples of companies that have implemented digital innovations to improve management.

The study uses the methods of theoretical analysis of scientific publications and empirical analysis of practical examples, which allows to obtain a complete picture of the impact of digital technologies on international management. The findings underline the need to adapt management strategies to new conditions, develop digital competencies and an organizational culture focused on innovation and flexibility. The article provides recommendations for the effective implementation of digital technologies to increase the competitiveness of companies in global markets.

Keywords

digital transformation, international management, global operations management, artificial intelligence, automation, organizational culture, adaptation to digital changes.

Problem statement

The modern business world is experiencing profound changes under the influence of digital technologies, which are significantly transforming the management approaches and structures of international companies. Traditional methods of conducting global operations are giving way to new models based on the use of big data, artificial intelligence, automation, cloud services and blockchain technologies. At the same time, this transformation requires companies to revise their management strategies, decision-making approaches and ensure competitiveness in international markets. However, insufficient adaptation to new technologies can lead to a loss of positions in global markets and a number of management problems.

Relevance of the chosen topic

The digital transformation of international management is a key trend driving the global economy. It not only improves the efficiency of business processes, but also creates new opportunities for companies to develop through innovative business models and expanded channels of interaction with customers. In particular, the automation of operations and the introduction of analytical tools allow companies to quickly adapt to changing market conditions. However, despite the obvious benefits, companies face challenges such as cybersecurity, resistance to change from staff, and the need for new competencies. This underlines the need for a comprehensive study of the impact of digital technologies on international management.

Analysis of recent research and publications

Digital transformation issues are actively discussed both in academic circles and in the business environment. Researchers such as Kulyk M., Bugrimenko R., Smirnova P., Kobushko Y., Manzhola B., Andriyiv N., etc. emphasise that digitalisation contributes to the development of all business processes and changes management paradigms, focusing companies on innovation and flexibility. Works by other authors, such as: Kravchuk O., Varis I., Zaryvnykh K., Bey G., Sereda G., Dergachova V., Koleshnya Y., Golyuk V., Melnychenko S., Lositska T., Bediaieva N., etc. focus on the need to develop new digital competencies and transform organisational culture. Despite the existence of a significant body of research, the question remains as to how various digital technologies affect the management of global operations and how to effectively integrate these technologies into international business processes.

Purpose of the article

The purpose of this paper is to study the impact of digital technologies on the management of global operations in international management and to develop recommendations for the effective adaptation of companies to the new conditions of the digital economy.

To achieve this goal, the following tasks have been identified: conducting a theoretical review of the concept of digital transformation and its role in international management, studying the main digital technologies that affect the management of global operations, identifying the benefits and challenges associated with the implementation of digital solutions in international companies, analysing practical cases of successful digital transformation in international business, etc.

Presentation of the main research material and results obtained

Digital transformation is a complex process of integrating modern digital technologies into all aspects of an organisation's activities in order to increase its efficiency, flexibility and competitiveness (Bugrimenko & Smirnova, 2024). Unlike the mere implementation of information technology, digital transformation encompasses changes in business processes, organisational structure and culture, as well as in interaction with customers and partners. It is based on the active use of big data, artificial intelligence (AI), cloud computing and blockchain, which allows companies to radically change the way they do business and manage (Kulyk, 2024).

Digitalisation is not limited to the introduction of new technologies; it changes approaches to strategic thinking, value formation and business models of companies. One of the key aspects is customer focus and personalisation of products and services through data analytics. From the perspective of internal processes, digital transformation involves the automation of routine operations, allowing management to focus on strategic initiatives.

In the context of international management, digital transformation plays an important role as it contributes to the development of global operations and enhances competitiveness in global markets. The main areas of its impact include globalisation and integration of business processes. Thanks to digital platforms, companies can integrate operations in different countries faster, coordinate branch operations and ensure process continuity. Cloud technologies make it easier to access real-time information for different departments in different parts of the world, which ensures the unity of strategic decisions (Pankratova, 2021).

Optimising management processes is another important aspect. The introduction of digital solutions allows for improved management of international teams through the use of automated project control tools and effective communication. ERP (Enterprise Resource Planning) and CRM (Customer Relationship Management) systems provide centralised data accounting and increase the efficiency of customer and partner relationship management.

Digitalisation also contributes to the development of innovative business models, such as sharing platforms (Uber, Airbnb), which are rapidly scaling globally. In international management, the ability of companies to quickly adapt to market changes and innovate to meet customer demand in different regions is becoming important. The use of big data and analytics helps to predict risks and develop preventive measures. However, digitalisation poses new challenges, in particular, cybersecurity threats, which forces international companies to invest in secure IT infrastructures (Melnychenko, Lositska, & Bieliaieva, 2021).

Changes in culture and competences are also important consequences of digital transformation. It changes the requirements for staff competencies and organisational culture. International companies face the need to develop digital literacy of their employees and implement flexible approaches to managing teams working remotely ("15 Effective Ways HR Teams Can Leverage Big Data," 2021).

Consider the digital maturity model developed by MIT and Capgemini (Fig 1), which classifies companies along two dimensions: the level of digital transformation and the degree of readiness for change. Start-up companies, which are just beginning their digital transformation journey, are characterised by a low level of digital infrastructure and a lack of strategic vision, and usually face difficulties in implementing new technologies due to a lack of skilled personnel and internal resistance to change. In contrast, digirati companies, being 'digital from birth', demonstrate high digital maturity and an innovative culture. Such companies are actively experimenting with new business models that help them respond quickly to market changes. Google or Amazon are vivid examples of digirati, which have turned digital solutions into the basis of their competitive advantage (Dergacheva, Koleshnia, & Golyuk, 2022).

Between these two poles are companies that are either overly focused on technology without a strategic vision (mods) or have progressive management but lag behind in digital development (conservatives). Trendies often implement the latest technologies without a clear understanding of how they will affect the company's long-term strategy, which can lead to wasted resources. Conservatives, on the other hand, although they have a strong corporate culture and management practices, risk losing their competitive position due to slow innovation.

Each of these categories requires an individual approach to formulating a digital transformation strategy. While the priority for newcomers is the introduction of digital tools, digital leaders have already turned digital technologies into a driving force for their business.

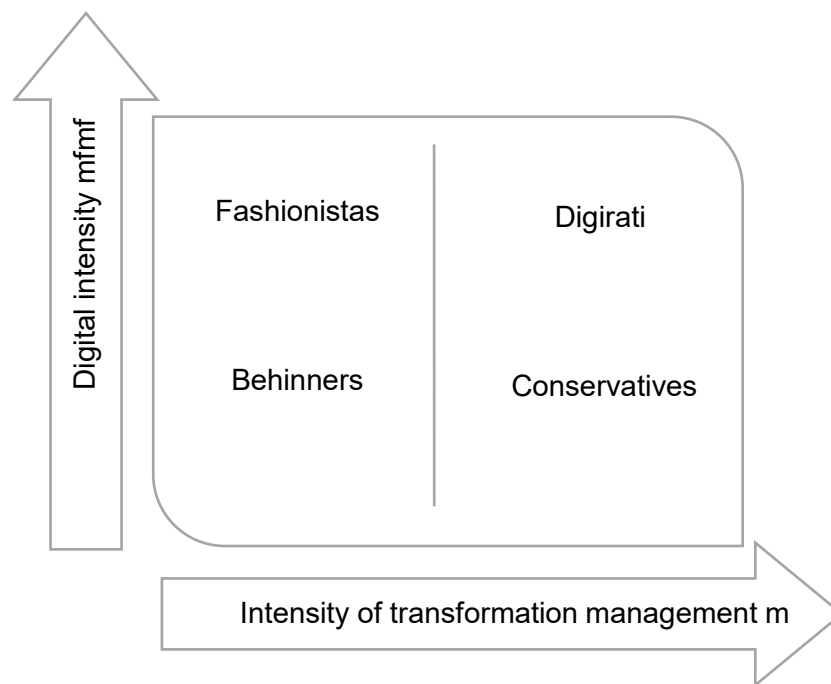


Fig. 1: Levels of digital maturity of a company
Based on data from: (Dergacheva, Koleshnia, & Golyuk, 2022).

In general, the digitalisation of human resources management involves changes in three areas: digital workforce (attracting employees with innovative thinking, bridging digital skills gaps, ensuring continuous improvement of knowledge, skills, and abilities through digital technologies); digital workplace (creating a work environment that ensures productivity, collects information on tasks, uses modern means of communication, and supports digital feedback from employees); digital HR (transformation of personnel management functions based on the latest computer technologies, use of digital tools and software products) (Fig 2).

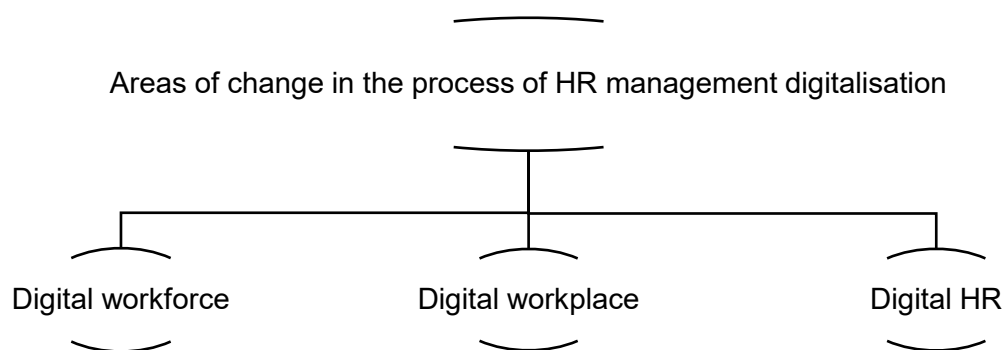


Fig. 2: Changes due to digitalisation of the enterprise's HR management system.
Source: Based on data from: (Melnychenko, Lositska, & Bieliaieva, 2021)

The technological revolution is digitising HR technologies and automating most HR functions at the enterprise. One of the most common functions to be digitised is the automation of the recruitment process. With the help of specialised platforms and systems based on artificial intelligence (AI), companies significantly speed up the search and selection of candidates. Automatic resume analysis tools allow you to quickly filter out the most relevant applications. An example of this approach is Unilever, which implemented an AI solution for pre-selection of candidates, which reduced the time for recruitment by 75% and increased the accuracy of personnel selection (Melnychenko, Lositska, & Bieliaieva, 2021). Let's take a closer look at the opportunities provided by the digital transformation of HR and consider specific examples of companies that use these improvements (Table 1).

Table 1 shows that digital changes in HR have a significant impact on the effectiveness of HR management and help optimise business processes in modern companies. Integrated mobile applications, cloud

services, artificial intelligence, virtual reality and data analytics are significantly transforming traditional HR functions, making them more automated, flexible and efficient.

Table 1: Opportunities that enterprises use due to digitalisation of HR management systems and examples of such enterprises

№ №	Digital change	Functionality	Companies that use this
11	Automation of HR processes through the use of integrated mobile applications	Helps to execute: - simple management functions (time management, meeting location, movement tracking and delay notification, multimedia messaging, optimisation of the workday plan); - specific HR functions (online recruitment, automation of HR services, online training, quality tracking and assessment, measurement and improvement of engagement, providing feedback).	Uber, Uklon, Arbnb, KFS.
22	Digital integration of HR with cloud services.	Helps to execute: - the recruitment process (streaming requests from multiple sources, automatic processing of a large amount of information for decision-making, quick feedback tools); - quality of labour communication (automation of evaluation and rating, achievement of greater fairness in results, facilitation of communication between subordinates and management); - increased accessibility of innovations (preservation and dissemination of creative ideas); - reducing workload (automation of routine processes, reduction of working hours).	Talentsoft, Android, Twitter
33	Predicting human analytics	Helps to execute: - visualising and analysing large amounts of data on a global scale and scope; - combining methods of forecasting development scenarios and intellectual analysis; - is an effective tool for decision-making and forecasting, avoiding the subjectivity of human thinking.	Amazon, Walmart, Tesco
44	Virtual reality (VR)	Helps to execute: - giving new candidates an insight into the organisation and execution of work in the company by virtualising the company's internal space; - expanding opportunities for talent acquisition, training and development.	Hilton hotel chain, Deutsche Bank offices, Vantage Point
55	Artificial intelligence (AI)	Helps to execute: - integration of software products, complex algorithms for responding to the actions and words of consumers, creation of a «human likeness» that can effectively interact with job candidates; - calculating salaries and bonuses.	Most modern businesses

**Based on data from: (Melnychenko, Lositska, & Bieljaieva, 2021).*

In general, digital innovations in HR help to increase the productivity and efficiency of management processes, reducing routine tasks and creating conditions for the growth of an innovative culture. Companies that actively implement these technologies are gaining competitive advantages in global markets through more flexible and adaptive human capital management.

Digitalisation has brought modern systems to the HR sector that can integrate and automate key HR business processes. Such solutions include SAP HCM, Oracle HCM, Dynamics 365 Human Resources, Workable, Hurma,

PeopleForce, BambooHR, Zoho People and BAS ERP Human Resources Management (Varis, Kravchuk, & Paraschuk, 2022). Each HRM system has its own unique functionality that allows them to perform different tasks. Some of them specialise only in certain processes, such as HR records, while others cover a wider range of functions, including recruitment, onboarding, assessment and development of employees. These solutions can operate as standalone applications or integrate into comprehensive business platforms to automate the entire enterprise.

When choosing an HRM system, it is important to consider not only its functionality but also the level of security. Companies need to understand which modules they will use most often in order to choose a platform that provides the most relevant features. Today, the most popular HR processes automated through HRM systems are: recruitment, performance management, HR administration, career planning, time tracking, HR analytics, and automation of routine tasks.

Some HR processes are partially supported by the existing functionality of the systems, such as workforce planning and forecasting, employee assessment, competency management, employment contracts, employee onboarding, operational team management and staff incentives. At the same time, certain aspects of management remain less automated. These include: analysis of work processes, management of employee training, organisation and maintenance of workplaces, labour standardisation, labour cost control, occupational safety and health, and personnel cost management (Varis, Kravchuk, & Paraschuk, 2022).

In the context of using the latest HRM systems at enterprises, it is worth noting that, according to the World Economic Forum experts, in the future, about 70% of the total value will be created by digital products and the introduction of digital business models. As can be seen from Fig 3, the share of global GDP generated by digitalised businesses increased 3.3 times between 2018 and 2022. At the same time, the contribution of non-digitalised companies decreased by 0.77 times (Fig 3).

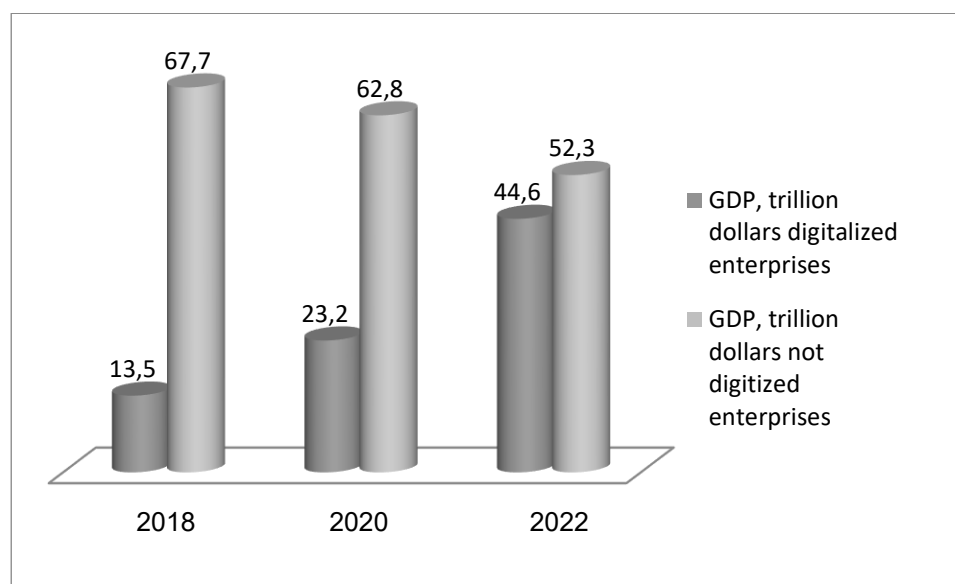


Fig. 3. Dynamics of global GDP with the participation of digitalised and non-digitalised enterprises, trillion USD

Source: Based on data from: (Varis, Kravchuk, & Paraschuk, 2022).

According to Fig 3, we see that digital transformation is an inevitable process that affects all areas of business, including HR. Companies that do not adapt to new realities risk losing their competitiveness.

Therefore, in order to effectively implement digital technologies to increase competitiveness in global markets, companies need to develop a comprehensive digital transformation strategy that takes into account their business needs, resources and industry specifics. An important first step is to conduct an audit of the current level of digital maturity, which will help identify weaknesses and priority areas for transformation (Kravchuk, Varis, & Zaryvnykh, 2021). The use of digital maturity models, such as those developed by MIT and Capgemini, will help to classify the company and focus efforts on specific areas of development, whether it is improving technological readiness or strengthening strategic vision.

Companies are advised to gradually introduce cloud technologies and integrated HRM systems, such as SAP HCM, Oracle HCM or BambooHR, to help automate HR processes, improve recruitment and performance

management. When choosing such systems, it is important to focus on platform flexibility, functionality, and security compliance. Integration with cloud services will simplify access to real-time data, which will ensure the coordinated work of global teams and speed up management decision-making.

In addition, companies can implement artificial intelligence and analytical tools to make objective management decisions based on big data (Kobushko & Manzhola, 2023). AI will help automate routine processes, predict market trends, and improve customer experience. The use of human capital analytics will help to better manage staff and predict productivity. Investments in digital security are also important, as the growing number of cyber threats can be a significant obstacle to successful digital transformation.

Overall, successful digital transformation requires a systematic approach that combines technological innovation with organisational change. Companies must be prepared to constantly adapt strategies and business processes to remain competitive in dynamic global markets.

Conclusions

Summing up all of the above, we can conclude that digital transformation has become a key factor in the development of modern international companies, radically changing approaches to managing global operations. Analysing the impact of digital technologies on international management, it can be concluded that traditional business models are gradually giving way to new solutions based on big data, artificial intelligence, automation, cloud services and blockchain technologies. The implementation of these innovations provides companies with increased process efficiency, flexibility and competitive advantage in global markets.

Globalisation and integration of business processes are accelerated by the use of cloud solutions and integrated management systems, such as SAP HCM, Oracle HCM and Dynamics 365 Human Resources. They allow companies to centralise management, provide real-time data transparency, and improve communication between divisions in different countries. At the same time, AI helps automate routine processes, improve decision-making accuracy, and reduce the subjectivity of HR management. This provides companies with the ability to adapt quickly and increase innovation.

HR technology is an important element of digital transformation that significantly improves the efficiency of HR management. HR data analytics plays an important role in helping to predict productivity and increase employee engagement. However, some important HR processes, such as labour rationing or cost management, are not yet sufficiently covered by digital solutions, which requires further development of systems.

An important aspect is the ability of companies to integrate innovations into existing business processes. The digital maturity model proposed by MIT and Capgemini shows that companies are at different stages of digital transformation: from beginners to leaders (digirati). Successful digital transformation requires a comprehensive approach that includes adapting organisational culture and developing digital competencies of staff. The use of remote work and virtual reality (VR) technologies helps to attract the best talent and improve learning processes. At the same time, companies should invest in cybersecurity systems to minimise risks in the face of increasing cyberattacks.

In summary, digital transformation is not only changing the way global operations are managed, but also opening up new opportunities for international business development. Companies that can effectively integrate digital solutions and build flexible management models will gain significant competitive advantages. However, success will depend on the ability of management to make informed decisions, support innovation and respond effectively to new challenges arising from the transformation process.

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