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DIGITAL TRANSFORMATION OF BUSINESS PROCESS MANAGEMENT IN THE EAST COUNTRIES: TRENDS, CHALLENGES AND PROSPECTS

Abstract. The research is devoted to the analysis of the digital transformation of business process management in the countries of the East, identifying key trends, challenges and prospects. The novelty lies in the comparative analysis of the digital strategies of China, Japan, South Korea and Singapore, which makes it possible to assess the impact of digitalization on the competitiveness of the economy. The main scientific tasks include the study of digital initiatives, their impact on business models and the identification of factors of successful transformation. The paper uses methods of comparative analysis, the case method and the study of real business processes for a comprehensive assessment of digital transformations. The results show that digitalization contributes to economic growth, but requires overcoming challenges such as cyber threats and a shortage of digital staff. In conclusion, the importance of an integrated approach to digital transformation is emphasized, which can be adapted to increase the competitiveness of national economies.

Keywords: digital transformation, business processes, digital economy, management, innovation, Eastern countries, digitalization.

Introduction

The modern economy is undergoing a profound transformation under the influence of digital technologies, which is especially noticeable in the countries of the East, where traditional business models are adapting to new realities (Shostak L. et al., 2024:243). In the context of global competition, the digital transformation of business process management is becoming a key factor in improving the efficiency, competitiveness and sustainable development of companies. The use of artificial intelligence, big data, cloud computing, and blockchain technologies makes it possible to automate processes, improve resource management, and increase the transparency of business activities.

The significance of this study is that digitalization is transforming every aspect of business, reshaping how we approach process organization, customer and partner engagement, and human resource management. Countries in the East, including China, South Korea, Singapore, and Japan, are embracing advanced digital technologies to foster an innovative and resilient economic landscape. At the same time, the process of digital transformation is accompanied by a range of obstacles, including a lack of qualified personnel, cybersecurity threats, the need to adapt regulatory frameworks, and the difficulty of integrating digital solutions into traditional business models.

The examination of trends, obstacles, and prospects for the digital transformation of business process management in Eastern countries is crucial for both government agencies developing digitalization strategies and for entrepreneurs aiming to enhance the efficiency of their companies in the digital economy.

The novelty of this research lies in its comprehensive analysis of digital transformation processes in business process management, taking into account the specific characteristics of Eastern countries. The study not only explores successful digital transformation strategies but also identifies key barriers that hinder their implementation. Particular emphasis is given to the implementation of digital technologies in diverse economic sectors, the examination of the practices

of prominent Eastern nations, and the potential for adopting their strategies in other regions. The findings of this research will enable the identification of successful digital transformation strategies, the assessment of potential risks, and the formulation of recommendations for businesses and government entities seeking to expedite digitalization and enhance their competitiveness in the era of the Fourth Industrial Revolution.

In this digital age, advances in technology are skyrocketing. In 2020, the pace of digital transformation has begun to accelerate due to the COVID-19 pandemic as businesses have been forced to utilize technology in almost every aspect of business (Amankwah-Amoah J. et al., 2021:602). Utilizing digital technology is key to business survival in today's competitive business environment.

Advances in digital technology are changing the way firms operate, how they are structured and how they compete in the global economy (Autio E., Mudambi R., Yoo Y., 202:3). Digital business management has become the standard adopted by industries to survive the rapidly increasing changes in the world of commerce.

Materials and methods

The research used a variety of sources, including scientific articles, analytical reports, government documents, company reports, and data from international organizations, to analyze the process of digital transformation in business process management in Eastern countries.

We studied the works of leading experts and analysts in the fields of digital transformation, the digital economy, and business process management. These sources allowed us to understand the theoretical basis of digitalization and identify key concepts, as well as the main trends in Eastern countries.

In addition, we used statistical data and reports that reflect the level of digitization of the economy, investment attractiveness, and competitiveness in these countries. These materials helped us to assess the extent of digital transformation and its impact on the economy and business landscape.

The national digitalization strategies of China, Japan, South Korea, and Singapore were analyzed. These documents provided insight into government approaches to digital transformation and identified the main directions of their digital policies.

Reports from large corporations such as Alibaba, Toyota, Samsung, Grab, Huawei which are implementing digital technologies in their business processes, were also considered. These materials formed the basis for a case study analysis, which allowed us to identify successful strategies for digitalization.

The methods of comparative analysis, the method of observation, and case methods were applied in the framework of the study. The comparative analysis showed the study and comparison of digital transformation practices in different countries of the East: China, Japan, South Korea, Singapore. Using the research method, real business processes and digital initiatives in corporations in the Eastern countries were investigated. And the case study method showed an analysis of successful examples of digital transformation of companies and government initiatives in the countries of the East. These methods have made it possible to comprehensively study the trends, challenges and prospects of digital transformation in the countries of the East.

Discussion

The theoretical basis of the article is formed by fundamental developments on the topic under study, which were presented in the works of domestic and foreign authors, such as T.L. Mesenbourg, M.V. Kosolapova, V.A. Svobodin, T.K. Oganessian, V.P. Shuisky, G.I. Abdrakhmanova and others.

"Digital transformation" is a deep reconstruction of business processes with the widespread use of digital tools for their implementation, which leads to a significant improvement of their

characteristics and/or the emergence of their radically new properties and properties (Nadkarni, Prügl, 2021: 235). In the rapidly developing world of business activity, the success of the company often depends on the effective use of information technologies. With the development and concentration of information technologies, their role in the innovative activities of enterprises, in the formation of new business models, as well as in marketing processes has increased significantly (Dana, 2022: 983). Digital transformation transforms the original business model of an enterprise and creates new business opportunities by leveraging globally distributed digitized assets and organizational resources (Lang, 2021: 23). The concept of digital transformation should include the existing core competencies and strengths of the enterprise, including the ways to increase them through the implemented transformation (Savelieva, 2019: 190). Businesses often face some challenges on their way to digital transformation. The most important of them is related to obstacles such as the human factor (Schneider, Kokshagina, 2021: 385). Studying the opinions of domestic and foreign scientists, it is necessary to emphasize that the digital transformation of modern enterprises is the highest stage of development of automation processes (Zhang, 2022: 2784). Therefore, the process of external digital transformation must begin with changes within the enterprise.

According to Z. Miao, the digital economy is the application of digital technology in the production, distribution, exchange, and consumption of goods and services (Miao, 2021: 4345). The main characteristics of the digital economy include: mobility, use of data and network effects.

M. N. Jula feels that three components are necessary for the digital economy to work successfully: e-business, e-commerce, and infrastructure (Internet connection, software, and telephony) (Jula, 2024: 4). Digital technology and technology in general has always had a profound impact on business and society. The evolutionary progress of digital technologies has changed the way firms function, how they are structured and how they compete in the global economy.

According to I. Alon and V. Bretas the global digitalization of business was greatly accelerated in 2020 by the pandemic of a novel coronavirus infection, which caused a large portion of economic activities to migrate to remote mode (Alon, Bretas, 2021: 260).

The literature analyzed in this study suggests that digital transformation is crucial for business development. The research confirms that integrating digital technologies into business operations enhances their efficiency, drives economic growth and strengthens a country's competitive position. This study aims to conduct a comparative analysis of digitalization experiences in Eastern countries in order to identify best practices and provide recommendations for future development in this area.

Results of research

The implementation of digital transformation ensures an improvement in the quality of existing business processes in the company, which follows the introduction of innovative technologies and the improvement of the company's business models in accordance with the conditions of the digital economy. Factors characterizing the new digital environment:

1. The increasing rate of change. Today, various innovative technologies have significantly changed the usual ideas about various sectors of the service sector. The high rate of innovation is forcing companies to change their business models and create new products and services tailored to meet new needs.

2. High uncertainty of the external environment. Constant changes lead to high uncertainty of the external environment, enterprises are forced to live in conditions of high uncertainty and constant changes. This will lead to constant changes and the emergence of new business models focused on the economy of "shared consumption" and digital tools.

3. Digitalization of communications. Information and communication technologies are changing the patterns of communication between people, as well as between people and organizations (government authorities, small and large businesses, retailers, and public organizations). The digitalization process has expanded the possibilities, and now customers have

the opportunity to interact directly, without intermediaries. The list of services available online has significantly expanded, including government services and education, which were previously offered only offline.

4. Social transformations. Declining birth and death rates, urbanization, population growth and an increase in life expectancy, accelerated migration between countries, an increase in the number of elderly people, access to education, and a change in the role of women.

5. The rapid development of technology. Convenience and intuitive simplicity have become the main requirement, and the availability of technology has become a trend of the times. The entire innovative business operates using cloud technologies. Server overload and the need for financial investments are a thing of the past. Apple Pay, Android Pay, and LG Pay technologies allow transactions based on magnetic switching technologies, which are common among many innovative and other companies.

Digitalization is changing the traditional competitive environment of companies and creating a new type of modern enterprise, a competitive external environment. The digital economy and the digital outside world inevitably require, first of all, a change in the company's business model. The business model, first of all, should be based on constant compliance with the requirements of the external environment and control by competitors. Secondly, there is a constant innovative approach to changing the value of services to customers through innovative digital technologies, whether it is simplifying procurement processes or controlling the entire supply chain. There are three stages of the business digitalization strategy: (figure 1)

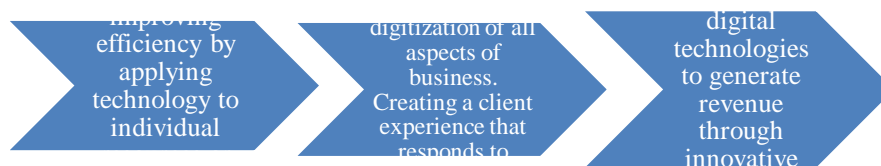


Figure-1. Stages of development of digital transformation of the company

Note: compiled by the author

Digitalization, digital transformation, and digital reinvention are key factors in the development of business processes and the improvement of their efficiency, particularly in the context of Eastern countries. As part of the global digitalization process, businesses are forced to adapt to new realities and implement advanced technologies to remain competitive.

Through digitalization, companies utilize technology to enhance the efficiency of individual resources and processes. This includes automating production, implementing CRM systems, and utilizing cloud solutions. However, these measures are not sufficient for fundamental change. Digital transformation entails digitizing every aspect of a business, including not only optimizing processes but also creating personalized customer experiences tailored to individual consumer needs.

Digital reinvention is a next stage beyond traditional digitalization and transformation. It involves the development of innovative business models, products, and strategies to create new revenue streams and enhance customer engagement. In countries like China, Japan, South Korea, and Singapore, digital reinvention has become the foundation for sustainable development. Companies in these countries are leveraging artificial intelligence, blockchain, big data, and automation technologies to reach new levels of success.

Thus, the successful digital transformation of business processes in the countries of the East involves an integrated approach. This includes digitalizing individual processes and fundamentally

rethinking business strategies. These countries' experience shows that integrating digital technologies into corporate governance leads to increased efficiency and innovation, as well as the creation of competitive advantages on an international level.

The comparative analysis showed the study and comparison of digital transformation practices in different countries of the East: China, Japan, South Korea, Singapore. Using the research method, real business processes and digital initiatives in corporations in Eastern countries such as Alibaba (China), Toyota (Japan), Samsung (South Korea) and Grab (Singapore) were investigated. For example, Alibaba is actively using artificial intelligence and Big Data to personalize the customer experience, and Toyota is implementing smart manufacturing technologies to increase efficiency. Samsung is developing advanced IT solutions, and Grab is transforming the transportation services industry by introducing digital payments and machine learning algorithms. The case study method was used to analyze successful examples of digital transformation of companies and government initiatives in the countries of the East. This comparative study also uncovered significant disparities in the strategies for digital transformation in the nations of the East. In China, the government actively promotes technological advancements by fostering the growth of artificial intelligence, blockchain, and big data through initiatives such as "Made in China 2025" (Tsymbal, Natsvlishvili, 2023: 83). In Japan, digitalization is rooted in the concept of "Society 5.0," which emphasizes the integration of physical and digital technologies into daily life (Kasinathan, 2022: 15). South Korea relies on high-speed internet and 5G infrastructure, which fuels the development of the Internet of Things and smart cities (Massaro, Kim, 2022: 102290). In Singapore, digital transformation is focused on creating a supportive business environment and nurturing startups in the fields of fintech and artificial intelligence (Wong, 2022: 208).

The Digital Transformation Case Study method has shown that:

Alibaba (China) – The use of artificial intelligence to automate e-commerce processes and personalize customer experience.

Toyota (Japan) – The introduction of industry 4.0 and robotic technologies in production processes.

Samsung (South Korea) Develops advanced solutions for the Internet of Things and digital devices.

Grab (Singapore) – Transformation of transportation services and integration of digital payments into the customer service system.

Huawei (China) is a leader in the field of 5G technologies and digital infrastructure, influencing global digitalization trends.

The method of observing the actual use of digital technologies in various fields has shown that they are widely used. In the field of financial technology, leading companies in the East are actively developing digital payment systems and blockchain platforms. Automated technologies are being introduced in logistics and transportation, including self-driving vehicles and digital platforms that optimize supply chains. In the field of healthcare, there is an active use of telemedicine, big data processing technologies and remote monitoring systems for patients.

The analysis showed that digital transformation in Eastern countries significantly affects the competitiveness of companies by accelerating innovation processes and improving management efficiency. To maximize the benefits of this transformation, countries need to address several challenges, including cybersecurity, digital inequality, the modernization of legislation, and changes in the labor market structure. In the long run, the success of this transformation will depend on technological innovation, sound government regulation, and businesses' readiness to adapt to new circumstances.

An analysis of digital transformation in the Eastern countries shows that the successful implementation of new technologies depends on a number of key factors: the level of government support, the development of digital infrastructure, the innovative potential of companies and the adaptability of the business environment. China is demonstrating an aggressive digitalization

strategy with an emphasis on government regulation and investment in artificial intelligence. Japan focuses on robotics and production automation, South Korea is actively developing 5G and IoT, and Singapore is creating favorable conditions for digital startups and technology companies.

Cybersecurity, a shortage of digital staff, and the need for regulatory oversight of new technologies remain the main challenges to digital transformation. In the future, the countries of the East will have to find a balance between innovation and regulation, as well as solve the problems of social adaptation of workers to changes in the labor market. Thus, digital transformation in the Eastern countries continues to be a dynamic and multifaceted process that requires strategic management and adaptation to global trends.

The findings of our research have shed light on the dynamics of digital transformation in Eastern countries, revealing key trends and effective approaches to integrating digital technologies into business operations. A comparative analysis has demonstrated that the success of digitalization is contingent upon government support, infrastructure development, innovation capacity, and the adaptability of the business environment.

A closer examination of specific examples has revealed that companies such as Alibaba, Toyota, Samsung, Grab, and Huawei are implementing distinctive digitalization strategies centered around artificial intelligence, robotics, 5G, and the Internet of Things, which has contributed to their strong position in the global market.

The findings not only deepen our comprehension of digital transformation, but also have tangible implications. They can be applied to formulate digitalization strategies for businesses in nations aiming to enhance their competitiveness. In the future, continued research on these matters will aid in tailoring successful approaches to diverse economic circumstances, mitigating the risks of digitalization, and optimizing business operations for sustainable economic expansion.

Conclusion

The digital revolution is emerging as a pivotal driver for business and economic growth in Eastern countries, fostering enhanced competitiveness, the emergence of new markets and the streamlining of business operations.

A review of the digital strategies implemented by prominent companies in the region, including Alibaba, Toyota, Samsung, Grab, and Huawei, revealed that the adoption of artificial intelligence, blockchain, the Internet of Things and 5G technologies has a profound effect on operational effectiveness and economic expansion.

Governmental backing for digitalization, investment in infrastructure and innovation are instrumental in creating a thriving digital environment.

Simultaneously, the process of digital transformation is confronted with a variety of obstacles, including cybersecurity, a lack of qualified professionals and the need for flexible regulation of emerging technologies. These obstacles necessitate a strategic approach and a comprehensive strategy from both the business and government sectors.

The experiences of countries such as China, Japan, South Korea and Singapore demonstrate that nations that actively embrace digital technologies reap substantial economic advantages and secure prominent positions in the global market.

Therefore, the future development of digital technologies in Eastern countries should be grounded in the fusion of innovations, the adaptation of novel management frameworks and the creation of favorable conditions for digital entrepreneurship. Only through a holistic and strategically balanced approach to digital transformation can we ensure sustainable growth, enhance investment attractiveness and foster the creation of a robust digital economy for the future.

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**ШЫҒЫС ЕЛДЕРІНДЕГІ БИЗНЕС-ПРОЦЕСТЕРДІ БАСҚАРУДЫҢ ЦИФРЛЫҚ
ТРАНСФОРМАЦИЯСЫ: ТЕНДЕНЦИЯЛАР, ҚИЫНДЫҚТАР
ЖӘНЕ ПЕРСПЕКТИВАЛАР**

Аңдатпа. Зерттеу Шығыс елдеріндегі бизнес-процестерді басқарудың цифрлық трансформациясын талдауға, негізгі тенденцияларды, сын-қатерлер мен перспективаларды анықтауға бағытталған. Зерттеудің жаналығы – Қытайдың, Жапонияның, Оңтүстік Кореяның және Сингапурдың цифрлық стратегияларын салыстырмалы талдау, бұл цифрландырудың экономиканың бәсекеге қабілеттілігіне әсерін бағалауға мүмкіндік береді. Зерттеудің негізгі ғылыми міндеттеріне цифрлық бастамаларды зерттеу, олардың бизнес-модельдерге әсері және табысты трансформация факторларын анықтау кіреді. Жұмыста сандық түрлендірулерді жан-жақты бағалау үшін салыстырмалы талдау әдістері, кейс-әдіс және нақты бизнес-процестерді зерттеу қолданылады. Зерттеу нәтижелері – цифрландыру қалай экономикалық өсуге ықпал ететінін көрсетеді, бірақ киберқауіптер мен цифрлық кадрлардың жетіспеушілігі сияқты қиындықтарды жеңуді талап етеді. Қорытындылай келе, ұлттық экономикалардың бәсекеге қабілеттілігін арттыру цифрлік трансформацияға комплексті көзқарастың маңыздылығы ретінде ерекше қарастырылады.

Кілт сөздер: цифрлық трансформация, бизнес-процестер, цифрлық экономика, менеджмент, инновациялар, Шығыс елдері, цифрландыру.

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ЦИФРОВАЯ ТРАНСФОРМАЦИЯ УПРАВЛЕНИЯ БИЗНЕС-ПРОЦЕССАМИ В СТРАНАХ ВОСТОКА: ТЕНДЕНЦИИ, ВЫЗОВЫ И ПЕРСПЕКТИВЫ

Аннотация. Исследование посвящено анализу цифровой трансформации управления бизнес-процессами в странах Востока, выявлению ключевых тенденций, вызовов и перспектив. Новизна заключается в сравнительном анализе цифровых стратегий Китая, Японии, Южной Кореи и Сингапура, что позволяет оценить влияние цифровизации на конкурентоспособность экономики. Основные научные задачи включают исследование цифровых инициатив, их влияния на бизнес-модели и выявление факторов успешной трансформации. В работе применены методы сравнительного анализа, кейс-метод и исследование реальных бизнес-процессов для всесторонней оценки цифровых преобразований. Результаты показывают, что цифровизация способствует экономическому росту, но требует преодоления таких вызовов, как киберугрозы и нехватка цифровых кадров. В заключение подчеркивается важность комплексного подхода к цифровой трансформации, который может быть адаптирован для повышения конкурентоспособности национальных экономик.

Ключевые слова: цифровая трансформация, бизнес-процессы, цифровая экономика, менеджмент, инновации, страны Востока, цифровизация.

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