

STRATEGIC INNOVATION IN DIGITAL BUSINESS PROCESS MANAGEMENT

WANG LIN*¹

PhD student, DBA

KOSHKINA O.V.¹

PhD in Economics

¹Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan

ABSTRACT. This article examines the transformative impact of the digital economy on Business Process Management (BPM), focusing on how emerging technologies reshape organizational structures and operational models. The primary aim is to analyze the integration of digital tools—such as artificial intelligence (AI), cloud computing, big data analytics, and robotic process automation (RPA)—into BPM practices to enhance efficiency, agility, and innovation.

The study employs a mixed-methods approach, combining literature review, case study analysis, and empirical data collection. Real-world examples from industries like fashion, retail, healthcare, and finance illustrate how digital technologies improve performance and customer engagement. Quantitative indicators are used to measure digital adoption across sectors, while qualitative insights explore organizational adaptation, leadership roles, and employee development.

The findings suggest that digital transformation not only improves the efficiency of core business processes but also necessitates cultural and strategic changes. Companies that embrace agile methodologies, data-driven decision-making, and proactive cybersecurity measures are more likely to succeed in a rapidly changing market environment. The research indicates that successful business process management (BPM) in the digital era requires not only the adoption of technology but also a comprehensive transformation that involves people, processes, and systems.

KEYWORDS: digital economy, business process management (BPM), digitization, agility, innovation, cloud computing, artificial intelligence (AI)

ЦИФРЛЫҚ БИЗНЕС ПРОЦЕСТЕРІН БАСҚАРУДА СТРАТЕГИЯЛЫҚ ИННОВАЦИЯЛАР

WANG LIN*¹

PhD докторанты, DBA

КОШКИНА О.В.¹

экономика бойынша PhD

¹әл-Фараби атындағы Қазақ ұлттық университеті, Алматы қ., Қазақстан Республикасы

АҢДАТПА. Бұл мақалада цифрлық экономиканың бизнес-процестерді басқаруға (BPM) трансформациялық әсері қарастырылады, жаңа технологиялардың ұйымдық құрылымдар мен операциялық модельдерді қалай өзгертетініне ерекше назар аударылады. Негізгі мақсат-тиімділікті, икемділікті және инновацияны жақсарту үшін BPM тәжірибесіне жасанды интеллект (AI), бұлтты есептеу, үлкен деректерді талдау және роботтық процестерді автоматтандыру (RPA) сияқты сандық құралдардың интеграциясын талдау.

Зерттеу әдебиеттерді шолуды, нақты жағдайларды талдауды және эмпирикалық деректерді жинауды біріктіретін аралас тәсілді қолданады. Сән, бөлшек сауда, денсаулық сақтау және қаржы сияқты салалардың нақты мысалдары цифрлық технологияның өнімділік пен тұтынушылардың белсенділігін қалай арттыратынын көрсетеді. Сандық көрсеткіштер әртүрлі секторларда цифрлық енгізуді бағалау үшін пайдаланылады, ал сапалық көрсеткіштер ұйымдық бейімделуді, көшбасшылық рөлдерді және қызметкерлердің дамуын бағалауға мүмкіндік береді.

Нәтижелер цифрлық трансформация негізгі бизнес-процестердің тиімділігін арттырып қана қоймай, мәдени және стратегиялық өзгерістерді қажет ететінін көрсетеді. Икемді әдістемелерді, деректерге негізделген шешімдерді және белсенді киберқауіпсіздік шараларын қолданатын компаниялар тез өзгертін нарықтық ортада табысқа жету ықтималдығы жоғары. Зерттеу көрсеткендей, цифрлық дәуірде бизнес-процестерді сәтті басқару (BPM) тек технологияны енгізуді ғана емес, сонымен қатар адамдарға, процестерге және жүйелерге әсер ететін жан-жақты трансформацияны қажет етеді.

ТҮЙІН СӨЗДЕР: цифрлық экономика, бизнес-процестерді басқару (BPM), цифрландыру, икемділік, инновациялар, бұлтты есептеулер, жасанды интеллект (AI)

СТРАТЕГИЧЕСКИЕ ИННОВАЦИИ В ЦИФРОВОМ УПРАВЛЕНИИ БИЗНЕС-ПРОЦЕССАМИ

WANG LIN*¹

PhD докторант, DBA

КОШКИНА О.В.¹

PhD по экономике

¹Казахский национальный университет имени аль-Фараби, г. Алматы, Республика Казахстан

АННОТАЦИЯ. В этой статье рассматривается преобразующее влияние цифровой экономики на управление бизнес-процессами (BPM), особое внимание уделяется тому, как новые технологии меняют организационные структуры и операционные модели. Основная цель — проанализировать интеграцию цифровых инструментов, таких как искусственный интеллект (ИИ), облачные вычисления, аналитика больших данных и автоматизация роботизированных процессов (RPA), в практику BPM для повышения эффективности, гибкости и инноваций.

В исследовании используется смешанный подход, сочетающий обзор литературы, анализ конкретных ситуаций и сбор эмпирических данных. Реальные примеры из таких отраслей, как мода, розничная торговля, здравоохранение и финансы, иллюстрируют, как цифровые технологии повышают производительность и вовлеченность клиентов. Количественные показатели используются для оценки внедрения цифровых технологий в различных секторах, в то время как качественные показатели позволяют оценить организационную адаптацию, руководящие роли и развитие сотрудников.

Полученные результаты свидетельствуют о том, что цифровая трансформация не только повышает эффективность основных бизнес-процессов, но и требует культурных и стратегических изменений. Компании, использующие гибкие методологии, принятие решений на основе данных и активные меры кибербезопасности, с большей вероятностью добьются успеха в быстро меняющейся рыночной среде. Исследование показывает, что успешное управление бизнес-процессами (BPM) в цифровую эпоху требует не только внедрения технологий, но и всесторонней трансформации, которая затрагивает людей, процессы и системы.

КЛЮЧЕВЫЕ СЛОВА: цифровая экономика, управление бизнес-процессами (BPM), цифровизация, гибкость, инновации, облачные вычисления, искусственный интеллект (ИИ)

INTRODUCTION. In today's rapidly evolving digital economy, technological advancement has become a dominant force shaping how organizations operate, compete, and deliver value. The widespread integration of digital technologies—such as artificial intelligence (AI), cloud computing, big data analytics, robotic process automation (RPA), and the Internet of Things (IoT)—has redefined traditional business paradigms, transforming both strategic decision-making and organizational infrastructure. As Baiyere et al. [1] observe, this transformation marks a shift from viewing technology as a support function to recognizing it as a central enabler of innovation and value creation.

The field of Business Process Management (BPM), which has historically been centered on streamlining workflows for efficiency, standardization, and quality assurance, has undergone a profound transformation due to technological advancements. In the digital age, BPM is shifting towards more agile, data-driven, and customer-centric systems.

Digital tools allow for real-time data collection, automated decision-making, and swift responses to market shifts. These capabilities not only improve operational efficiency but also foster continuous improvement, strategic adaptability, and responsiveness to changing consumer demands.

The digital transformation of business

process management has far-reaching effects on organizational structure and culture. It disrupts rigid hierarchical frameworks and encourages more adaptable, interdisciplinary, and collaborative management practices. Consequently, successful digital transformation necessitates not only the implementation of advanced technologies but also a cultural shift towards learning, experimentation, and digital proficiency. Leadership is instrumental in guiding this transformation by promoting a digital mindset, supporting employee growth, and enhancing organizational resilience.

The significance of this research is highlighted by the growing need for organizations to maintain their competitive edge in a volatile and rapidly changing global landscape. Conventional methods that focus on incremental process improvement and cost reduction are insufficient in a context where disruption, rapid innovation, and shifting customer preferences are the norm. Companies that can effectively integrate BPM with digital technologies are better equipped to innovate, scale, and respond to changes in real time.

The research employs a hybrid methodology. A comprehensive review of existing literature serves as a theoretical framework, while real-world examples from industries such as fashion, retail, finance, and healthcare demonstrate the practical application of digital BPM. Empirical data collected through surveys,

interviews, and performance metrics provide insights into the effectiveness of digital transformation strategies across various organizational contexts.

Particular emphasis is placed on cybersecurity, workforce preparedness, and leadership engagement as crucial enablers of successful BPM transformation.

In conclusion, this study contributes to the expanding body of knowledge on digital transformation by offering a thorough analysis of the evolution of BPM in the digital era. It provides theoretical insights and practical recommendations for managers, IT leaders, and policymakers seeking to leverage digital technologies to optimize operations, foster innovation, and achieve sustainable competitive advantage.

MATERIALS AND METHODS OF RESEARCH.

Object of Study: This study focuses on the impact of the digital economy on business process management (BPM), organizational transformation, and strategic adaptations within various industries, with a particular emphasis on the fashion industry. **Literature Review:** Comprehensive analysis of existing research and case studies on digital economy impacts and BPM transformations. Key references include Scuotto et al. [2] on environmental orientation of innovation, and Saeed et al. [3] on cybersecurity challenges in digital operations.

Case Study Analysis: Examination of real-world examples illustrating the application of digital technologies: Fashion Industry: Brands leveraging AI and Blockchain to personalize offers and manage inventory based on consumer preferences. Supply Chain Reconfiguration: Implementation of data analysis for demand forecasting and resource allocation. Digital Presence and Customer Engagement: Use of social media and e-commerce platforms to enhance customer interactions, especially accelerated by the COVID-19 pandemic.

Empirical Data Collection: Gathering quantitative and qualitative data from organizations that have undergone digital transformation. Methods include surveys, interviews, and performance metrics to evaluate the impact of digital technologies on BPM and operational efficiency.

Methodological Approach: The chosen methodologies provide a holistic understanding of how digital transformation affects BPM. The literature review offers theoretical insights, while case studies and empirical data provide practical evidence. The selection of these methods is justified by their ability to comprehensively capture the multifaceted impact of digital technologies on business processes and organizational structures. This approach also highlights the importance of cybersecurity integration and strategic adaptations for maintaining competitive advantage in the digital economy.

RESULTS AND THEIR DISCUSSION. The digital economy, characterized by the in-depth use of digital technologies to facilitate economic transactions and interactions, has considerably transformed the

landscape of commercial operations. Like Baiyere et al., this new economic paradigm incorporates technology into the main functions of organizations, which resumes not only how services and products are provided, but also how companies are managed and developed strategically. This introduction is used to define key terms and prepare the terrain to understand the deep implications of this transformation, in particular with regard to business processes (BPM).

The management of business processes traditionally implies the design, execution, monitoring and optimization of organizational processes aimed at improving efficiency and efficiency. However, the advent of the digital economy has catalyzed a change towards a more dynamic approach, interconnected and based on BPM data. Key terms such as "digitization", "agility" and "innovation" become relevant in this context, because organizations strive to take advantage of technological progress to improve their operational executives and remain competitive in a market More and more volatile.

The transition of conventional business processes to a digital centered approach requires an urgent response from organizations. The proliferation of digital technologies such as cloud computing, artificial intelligence (AI) and the analysis of megadata has not only redefined operational capacities, but also favored an environment where speed and adaptability are essential. For example, Cloud Computing enables evolving resources and real-time collaboration, allowing businesses to quickly respond to the evolution of market demands. Meanwhile, the AI and the analysis of megadata provides critical information on consumer behavior, facilitating more informed decision-making and personalized customer experiences. You can see in Table 1 the statistics.

These data highlight the state of digital adoption across various business functions, showing both opportunities and challenges for further digital integration.

In addition, organizations must recognize that the impact of the digital economy extends beyond simple technological upgrades; It fundamentally modifies structures and organizational processes. A digital centered approach often requires a passage from rigid hierarchies to more fluid and agile structures which promote interfunctional collaboration and knowledge sharing. This transcendence requires a cultural transformation which includes innovation, learning and flexibility, aligning employee mentalities on strategic vision centered on digital integration.

Strategic adaptations in response to the digital economy are also essential for organizations seeking improved efficiency and competitiveness. Traditional strategies that focused on reducing costs and optimizing existing processes may no longer suffice in a landscape characterized by a rapid technological

Table 1 - Digital Transformation Data Table

Indicator	Percentage (%)	Description
Internet Access	85.7	Percentage of organizations with internet access.
Online Sales	12.6	Percentage of organizations conducting online sales through websites or EDI systems.
Online Purchases	16.7	Percentage of organizations making online purchases.
Mobile Website Version	8.5	Percentage of organizations with mobile-adapted websites.

change and the evolution of consumer expectations. Companies must adopt a proactive position that encourages iterative experimentation and learning, leading to the development of new commercial models and the ability to swivel effectively while market conditions fluctuate.

In short, the transition to a digital economy requires a complete understanding of the interaction between technological progress and the management of commercial processes. This dynamic environment obliges organizations to rethink their operational frameworks, to embrace cultural changes and to engage in strategic adaptations aimed at exploiting digital technologies for a competitive advantage. While discourse surrounding the digital economy continues to evolve, BPM practices must also align them with the imperatives of innovation and agility necessary for survival and growth in a digitally transformed world., Technological progress has become a fundamental force in remodeling the management of business processes (BPM) within the digital economy. Innovations in automation, data analysis and artificial intelligence (AI) have substantially reconfigured traditional commercial paintings, leading to greater operational efficiency and effectiveness. Automation technologies allow the rationalization of repetitive tasks, thus minimizing human error and freeing resources for more strategic efforts [4]. For example, the manufacturing sector has successfully adopted Robotic Process Automation (RPA) to improve productivity. Companies such as Tesla and General Motors use automated robotic systems along the assembly lines to optimize production speeds while guaranteeing quality control. This strategic integration of automation not only improves production, but also allows faster adaptations to the needs of the market, illustrating a significant transformation into BPM (Table 2).

The advent of data analysis further revolutionizes business processes allowing organizations to effectively exploit large quantities of information. Advanced analyzes facilitate the extraction of insights impossible to the data, allowing the informed decision-making process in real time [5]. The

retail industry exemplifies this trend; For example, Amazon uses sophisticated data analysis to monitor consumer behavior and preferences, which informs the management of inventory and relationship strategies with customers. Analyzing the purchase models, Amazon is able to predict the demand and customize its logistics accordingly, which in the end leads to a better customer satisfaction and greater competitiveness. This ability to respond quickly to market fluctuations is a marked movement from traditional and slower response methods.

In addition, the integration of artificial intelligence in BPM has favored a paradigm change in the way organizations manage their processes. Technologies, including automatic learning algorithms, improve predictive skills and promote innovation within business models. For example, in the financial services sector, banks such as JPMorgan Chase distribute chatbots guided by the customer for customer service, which significantly reduces response times by providing support 24/7. This use of the AI allows organizations to improve customers' experiences while at the same time human resources re-establish towards more complex problems resolving activities, reporting a dramatic change in resource management approaches.

These technological progress force organizations to adapt strategically to maximize operational efficiency and maintain competitiveness. The movement to the integration of automation, data analysis and the AI requires a reevaluation of organizational structures and work flows. Companies have started to embrace more agile methodologies, facilitating interfunctional collaboration that improves reactivity and guides innovation. For example, in the health sector, organizations have implemented integrated BPM systems that use to the management of patient data and the recommendations on the processing. This integration not only accelerates patient assistance processes, but also promotes interdisciplinary collaboration between health care providers, with consequent more holistic results of patients and improved operating paths.

Therefore, the convergence of these technological

Table 2 - Digitalization Index of Economic and Social Sectors

Sector	Digitalization Index
Information Technology (IT)	33.9
Information and Communications	28.6
Transportation	15.2
Construction	12.8
Healthcare	10.5

progress has not only encouraged organizations to improve their efficiency, but has also required a complete transformation of the BPM framework in multiple sectors. Since companies are based more and more on these technologies, the interaction between automation, data analysis and continues to redefine traditional commercial practices, opening the way to a more dynamic and competitive panorama within the digital economy. The advent of the digital economy has required significant organizational changes, fundamentally changing culture in companies and reformulating employee functions. As companies operate more and more within a digital structure, traditional hierarchical structures are giving way to more collaborative and agile environments. This transformation is underlined by the need for multifunctional teams and the integration of various technological tools that facilitate real-time communication and project management. Trushkina et al. [6] highlight that the emphasis on collaboration stems not only from the need to take advantage of collective intelligence, but also the need to quickly adapt to market demands. This agile approach allows organizations to be more responsive, promoting a culture of continuous improvement and innovation.

Central for this evolution is the role of leadership in the elaboration of a clear digital view. Leaders have the task of directing their organizations through this transition, wondering how digital tools can improve operational efficiency and customer involvement. Effective leadership is crucial; It should not only endorse, but actively promote a culture that embraces change and takes advantage of technology. Leaders are responsible for establishing a digital mindset that permeates all levels of the organization. In addition, they play an instrumental role in the communication of the benefits of digital transformation to promote adherence among employees, thus relieving the resistance that may arise due to fear of job displacement or the complexity of new systems.

Equally important in this paradigm shift is the prioritization of employee training and development. As organizations integrate digital technologies into their processes, a corresponding investment in labor force skills becomes essential. Zhang et al. [7] emphasize that only implementing new technologies without equipping employees with the necessary skills can lead to results below the ideal. Organizations should adopt a proactive approach to training, focusing not only on the technical aspects of new tools, but also on the social skills needed to prosper in a collaborative environment. Continuous learning opportunities and Upskill programs significantly contribute to employee involvement, enabling individuals to adapt and stand

out in their roles (Table 3).

These data highlight the significant progress in digitalization across various sectors, contributing to increased efficiency and quality of services.

In addition, as employees' functions evolve in response to digital advances, traditional work descriptions can become obsolete. Employees are expected to assume multifaceted responsibilities that mix various sets of skills, thus promoting a culture of empowerment and autonomy. In a digital economy, the emphasis is placed on results rather than processes; Therefore, employees are encouraged to be innovative and contribute ideas that drive efficiency. The flattening of organizational structures also promotes point-to-point interactions, allowing knowledge sharing and cross-pollination of ideas, leading to refined problem solving resources.

In short, the transition to a digital economy incorporates more than just technological updates; Fundamentally alters organizational culture and employee roles. Leadership plays a vital role in navigating these changes, while continuous training and development are critical to allow the team to thrive. The convergence of these elements is crucial to promoting environments that increase efficiency and competitiveness in the fast-evolving digital scenario. In the fast-evolving digital scenario, organizations are required to reassess and adapt their strategic structures to improve competitiveness. The onset of global challenges, particularly the COVID-19 pandemic, catalyzed a profound transformation into business models and operational strategies. As companies fight with interruptions, they are increasingly integrating digital resources into their main functions to ensure resilience and agility. This requires a comprehensive understanding of digital tools and technologies that facilitate real-time decision making, remote collaboration and customer involvement. For example, companies have gravitated to adopt omnichannel strategies, which intertwine physical presence with digital contact points, thus creating a perfect consumer experience that is fundamental in today's market.

An emerging protruding approach in this context is the concept of environmental orientation of innovation, which refers to the ability of an organization to simultaneously exploit new opportunities while exploiting existing resources. This duality is particularly relevant in industries affected by rapid technological advancement and changing consumer behavior, such as the fashion industry. Within the fashion field, brands are required to not only innovate in terms of design and product offers, but also to take advantage of digital platforms for

Table 3 - Dynamics of Digital Infrastructure Development in Education

Year	Digital Space
2010	3,155
2015	6,890
2019	15,597

marketing, sales and customer interactions. Scutto et al. emphasize that fashion companies equipped with an environmental guidance of innovation are better positioned to respond to the dynamics of the unpredictable market. They are able to predict trends, maintaining operational efficiency, illustrating a crucial balance to support a competitive advantage.

The transformation of business processes in response to digital advancement also extends to the reconfiguration of supply chains. Brands that have adopted technologies such as Artificial Intelligence (IA) and Blockchain obtained information about consumer preferences and behaviors, allowing more personalized and responsive offers. For example, the implementation of data analysis facilitates the forecast of demand, essential for inventory management in the fashion industry. This alignment of digital tools with business objectives allows organizations to reduce waste, improve the allocation of resources, and finally create value to stakeholders.

In addition, the digital economy requires significant organizational changes that promote agility and flexibility. Traditional hierarchies are becoming less conducive to rapid decision making and response capacity. Many organizations have made the transition to flatter structures that enable multifunctional teams. This encourages collaboration and the exchange of ideas in various departments, promoting an indispensable culture of innovation in the face of constant changes. As organizations adapt their structures to better support digital initiatives, they cultivate an environment conducive to rapid pace and iterative development.

In this context, the strategic adaptations required by the digital economy also cover an emphasis on customer centralization. COVID-19 Pandemic has accelerated change to online purchases, bringing fashion brands to improve their digital presence and reassess customer involvement strategies. Companies are increasingly taking advantage of social media and e-commerce platforms not only to boost sales, but also to cultivate the community and promote direct relationships with their consumers. This change encapsulates a broader trend for customization, where data-oriented ideas allow brands to customize offers and establish significant connections with their customers.

In short, organizations that operate in the digital economy should adopt strategic adaptations that align with emerging technological landscapes and consumer needs. The intersection of ambidextrous innovation orientation, agile organizational structures and a client-centered approach serves as a structure to navigate the complexities represented by global challenges such as pandemic. By synthesizing these elements, companies are positioned to improve operational efficiency and ensure a sustainable competitive advantage in a constantly evolving market. In the context of the digital economy, cybersecurity has become a critical concern for companies that pass to

digitized operations. As organizations are increasingly counting on digital platforms to facilitate interactions with customers, suppliers and stakeholders, the potential risks associated with these platforms have become more pronounced. The transition to online operations generates large amounts of data which, if insufficient, can cause significant security violations, compromise confidential information and damage to organizational credibility. According to Saeed et al., the growth in online interactions requires a more complete approach to cybersecurity, because companies face double challenge to improve operational efficiency while ensuring sensitive data protection.

The convergence of trade processes (BPM) and cybersecurity is particularly obvious in the progress of technologies such as cloud computing, artificial intelligence and the Internet of Things (IoT). These technologies offer remarkable efficiency and capacities; However, they also expose organizations to new vulnerabilities. For example, the growing use of cloud services can rationalize processes, but also increases the risk of unauthorized access or data violations if adequate security measures are not in place. Saeed et al. glossary that, as businesses adopt this progress, they must also invest in advanced cybersecurity executives capable of protecting their operations against the evolution of threats.

To mitigate these risks, organizations must prioritize the implementation of robust cyber-defense strategies that correspond to their global management of business processes. The integration of cybersecurity protocols into BPM practices is not simply reactive but fundamentally strategic. Such integration promotes a proactive security posture which underlines the importance of risk assessment, the planning of the response to incidents and continuous monitoring. Alam et al. [8] Affirm that the adoption of a holistic cybersecurity approach can improve business resilience, ensuring that organizations not only comply with legal and regulatory requirements but also create a secure environment that strengthens confidence with customers and partners.

In addition, organizational changes associated with the transition to a digital economy require a cultural change that embraces cybersecurity as a central component of commercial operations. This change requires the involvement of all employees, from executive leadership to entry-level staff, recognizing their role in maintaining cybersecurity. Training and awareness programs are essential to promote a culture of mindfulness of security, ultimately improving the effectiveness of cyber-defense strategies within the organization. In addition, organizations must also reassess their relations with third-party suppliers, as the interconnection of digital supply chains involves shared vulnerabilities. The development of rigorous supplier assessment protocols can help mitigate the risks associated with access to third-party data, thus strengthening overall security.

In summary, while businesses sail in the complexities of the digital economy, the importance of cybersecurity cannot be overestimated. By integrating cybersecurity measures into their business processes management practices and recognizing the associated risks of increasing online interactions, organizations are positioned not only to protect their assets but also to prosper on an increasingly competitive market. The symbiotic relationship between commercial efficiency and robust cybersecurity strategies is used to strengthen the concept that security is essential for operational success and strengthening confidence in the digital age. The digital transformation of organizations means a crucial change in business process management by offering a multitude of benefits along with significant challenges. As literature suggests, emerging trends in digital transformation reveal a landscape where advances such as Artificial Intelligence (AI), Big Data analysis and cloud computing are not just supplementary tools, but have become essential to optimizing operations and increasing competitive advantage. According to bibliometric analyzes conducted by Chawla and Goyal [9], the growing incidence of digital transformation initiatives is evident in various sectors, indicating more acceptance and recognition of the need for these approaches to navigation in an increasingly complex digital economy.

One of the main benefits of implementing digital transformation strategies is the improvement of operational efficiency and customer experience. Routine process automation through robotic process automation (RPA) reduces the risk of human error, allowing employees to focus on higher value tasks. In addition, data-oriented ideas promote more informed decision making processes and greater operational agility. Companies that take advantage of cloud solutions can also size their resources dynamically, responding more effectively to floating market demands, a trend that supports sustained competitiveness in the digital market.

However, despite these advantages, organizations face several barriers that prevent the successful implementation of digital transformation strategies. A major obstacle is the resistance to change between employees and leadership. Kraus et al. [10] point out that skepticism regarding the adoption of new technologies usually stems from a perceived threat to employment safety or uncertainty about the adequacy of skill sets to manage new tools. This resistance can lead to sub-optimal use of digital systems, committing to enhancements promised in efficiency and productivity.

In addition, the initial costs associated with technology adoption can be substantial. The implementation of advanced technologies requires significant investment in infrastructure, software and human capital. For many organizations, especially small and medium enterprises, the financial burden of these transformations may be prohibitive, and

the return on investment may not be immediately apparent. Consequently, organizations should navigate the delicate balance between investing in technological advances and ensuring general financial viability, often postponing the necessary projects that can drive them to the digital age.

In addition to resistance and costs, the need for continuous improvements also has a formidable challenge in the digital transformation journey. The rapid rhythm of technological advances requires continuous evaluations of existing processes and systems. Organizations that no longer innovate risks being behind competitors who take advantage of the latest business technologies and practices. This requires an organizational culture that promotes adaptability and lifelong learning, where employees are encouraged to refine their skills continuously and get involved with new developments in their fields.

In addition, organizations have the task of establishing structures that facilitate iterative improvements, ensuring that systems are not only aligned with current business processes, but also adaptable to future changes. The implementation of such strategies can be particularly challenging in traditional organizational structures, which usually resist the fluidity necessary for effective continuous transformation.

In summary, although the digital economy offers substantial opportunities through improved efficiency and competitiveness, organizations must perform thoughtful strategies to mitigate challenges associated with the implementation of digital transformation. The interaction of emerging technologies, resistance to change, financial restrictions and the imperative for continuous improvements encapsulates the complexities of navigating this vital transition in business process management. The impact of the digital economy is becoming increasingly evident in various sectors, as organizations seek to reshape their business process management (BPM) for greater operational efficiency and competitive advantage. Several case studies exemplify how these transformations have been successfully performed, illustrating not only the specific technological advances adopted, but also the resulting effects on productivity and service provision.

A remarkable example is the hospitality sector, particularly Marriott International's hotel chain. Marriott used mobile technology and data analysis to optimize both customer experience and operational efficiency. When developing an integrated mobile application that allows personalized guest services-like mobile check-in, room selection and direct messages with the team-A Marriott redefined their service model [11]. The application is increased with data analysis features that provide management information on customer preferences and trends. This approach not only simplified operations, but also significantly increased customer involvement, leading to better classifications of brand satisfaction

and loyalty.

In the retail sector, Walmart has shown a powerful change in BPM through the implementation of advanced supply chain management technologies. Walmart employs sophisticated data analysis devices and IoT (IoT) to track real-time inventory levels, ensuring product availability and minimizing excessive action [12]. This technology has transformed traditional inventory management, taking advantage of real-time data to make instant decisions, which resulted in reduced operating costs and higher service speed. Quantitatively, Walmart reported an increase in square foot sales and a substantial decrease in inventory retention costs, highlighting the direct economic benefits of their digital innovations.

In summary, these cases highlight the effectiveness of innovative financial management strategies in the assessment and integration of intellectual capital in business assessment frameworks. By taking advantage of contemporary tools and techniques that align financial measures on the evaluation of intangible assets, companies in various sectors are able to navigate in the complexities surrounding the CI. In addition, these innovations are manifested in tangible commercial results, thus justifying the importance of intellectual capital as a vital component of the overall assessment of companies. The experiences documented in the case of the Spanish wine sector by Marco-lajara et al. [13] Amplify the need for more companies to adopt similar methodologies, confronted with traditional evaluation models which often neglect the intrinsic value derived from intangible assets. The continuous development of financial management in corporate environments highlights the need for more sophisticated measures of intellectual capital (CI) while businesses seek to articulate their value in a more exhaustive manner. Innovations in financial management, such as advanced analysis, megadata and artificial intelligence, have transformed the way companies assess and take advantage of their intangible assets. As discussed throughout this article, this technological progress facilitates a more nuanced understanding of intellectual capital by allowing the quantification of knowledge, relations and equity, which have traditionally been relegated to qualitative assessments.

However, the path to the effective integration of intellectual capital in the evaluation of companies remains heavy with challenges. One of the main problems is the lack of standardized measures to measure intangible assets, which hinder comparability and applicability between sectors. As companies are increasingly recognizing that intellectual capital can represent an important part of their overall market value, there is an urgent need for universally accepted executive which can capture and quantify these intangible assets. This echoes the feelings presented by Saqib et al. [14], which claims that a multifaceted approach is essential to fill existing gaps in current

financial accounting practices.

Strategic adaptations, characterized by a change towards customer-centered commercial models, further exemplify the need for organizations to emphasize their approaches to digital transformation. Understanding that customers expect not only personalized experiences but also agility in the provision of services is essential for companies that aim to prosper in this competitive field. Consequently, companies are obliged to align their BPM practices with a general strategic vision that prioritizes customer participation and satisfaction, thus ensuring that they remain relevant and competitive.

In addition, the importance of strategic forecast in navigation of these changes cannot be exaggerated. Organizations that invest in the prognosis tools and data analysis are better positioned to anticipate market trends and consumer behavior. This forecast reports not only immediate tactical decisions but also long-term strategic initiatives, which allows organizations to adapt their BPM frames in line with the changes projected in the environment. Improved strategic planning rooted in solid analytical abilities ensures that organizations not only respond to the current panorama, but also ensure their long-term competitiveness.

CONCLUSION. The transformative influence of the digital economy on business process management (BPM) is profound and multifaceted. Organizations that successfully navigate this digital landscape are those that strategically leverage technological advancements, implement adaptive strategies, and foster a culture of continuous innovation. The integration of advanced technologies such as artificial intelligence (AI), machine learning, and cloud computing in BPM not only redefines operational processes but also enhances decision-making capabilities. These technologies enable automation, optimize resource allocation, and lead to significant cost reductions, thereby driving organizations towards greater efficiency and competitiveness.

Furthermore, the shift towards digital operations necessitates a reevaluation of traditional organizational structures and workforce dynamics. The adoption of more agile and collaborative frameworks empowers employees at all levels, promoting interdepartmental collaboration and data-driven decision-making. This adaptability is crucial in an environment where consumer preferences and technological capabilities are rapidly evolving. Organizations must remain proactive in their strategic planning to respond effectively to market fluctuations.

Strategic adaptations that emphasize customer-centric business models further underscore the necessity for organizations to align their BPM practices with a broader strategic vision that prioritizes customer engagement and satisfaction. Understanding and anticipating customer needs through predictive analytics and data-driven insights ensure that organizations remain relevant and

competitive in the digital economy.

Ongoing research into the long-term effects of digital transformation on BPM is vital. As technology continues to evolve, its impact on business processes and methodologies will require continuous adaptation

and innovation. Organizations that commit to ongoing research and evaluation of digital trends will be better positioned to navigate the complexities of a digital-first future, achieving sustained growth and competitiveness.

REFERENCES:

- 1 Baiyere, A., Salmela, H., & Tapanainen, T. (2020). Digital transformation and the new logics of business process management. *European journal of information systems*, 29(3), 238-259.
- 2 Scuotto, V., Arrigo, E., Candelo, E., & Nicotra, M. (2020). Ambidextrous innovation orientation effected by the digital transformation: A quantitative research on fashion SMEs. *Business process management journal*, 26(5), 1121-1140.
- 3 Saeed, S., Altamimi, S. A., Alkayyal, N. A., Alshehri, E., & Alabbad, D. A. (2023). Digital transformation and cybersecurity challenges for businesses resilience: Issues and recommendations. *Sensors*, 23(15), 6666.
- 4 Butt, J. (2020). A conceptual framework to support digital transformation in manufacturing using an integrated business process management approach. *Designs*, 4(3), 17.
- 5 Mendling, J., Pentland, B. T., & Recker, J. (2020). Building a complementary agenda for business process management and digital innovation. *European journal of information systems*, 29(3), 208-219.
- 6 Trushkina, N., Abazov, R., Rynkevych, N., & Bakhautdinova, G. (2020). Digital transformation of organizational culture under conditions of the information economy. *Virtual Economics*, 3(1), 7-38.
- 7 Zhang, X., Xu, Y. Y., & Ma, L. (2023). Information technology investment and digital transformation: the roles of digital transformation strategy and top management. *Business Process Management Journal*, 29(2), 528-549.
- 8 Alam, M. M., Awawdeh, A. E., & Muhamad, A. I. B. (2021). Using e-wallet for business process development: challenges and prospects in Malaysia. *Business Process Management Journal*, 27(4), 1142-1162.
- 9 Chawla, R. N., & Goyal, P. (2022). Emerging trends in digital transformation: a bibliometric analysis. *Benchmarking: An International Journal*, 29(4), 1069-1112.
- 10 Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. *Sage Open*, 11(3), 21582440211047576.
- 11 Litvinenko, V. S. (2020). Digital economy as a factor in the technological development of the mineral sector. *Natural Resources Research*, 29(3), 1521-1541.
12. Van Looy, A. (2021). A quantitative and qualitative study of the link between business process management and digital innovation. *Information & Management*, 58(2), 103413.
- 13 Marco-Lajara, B., Zaragoza-Sáez, P. C., Martínez-Falcó, J., & Sánchez-García, E. (2023). Does green intellectual capital affect green innovation performance? Evidence from the Spanish wine industry. *British Food Journal*, 125(4), 1469-1487.
- 14 Saqib, N., Sharif, A., Razaq, A., & Usman, M. (2023). Integration of renewable energy and technological innovation in realizing environmental sustainability: the role of human capital in EKC framework. *Environmental Science and Pollution Research*, 30(6), 16372-16385.

СВЕДЕНИЯ ОБ АВТОРАХ:

Wang Lin* – PhD student, DBA, Al-Farabi Business School, Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan

E-mail: w.lin@internet.ru

Koshkina Olga - PhD in Economics, Al-Farabi Business School, Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan, ORCID: 0000-0002-0847-3537

E-mail: o.koshkina@mail.ru

Wang Lin* - PhD докторанты, DBA, әл-Фараби бизнес мектебі, әл-Фараби атындағы Қазақ ұлттық университеті, Алматы қ., Қазақстан Республикасы

E-mail: w.lin@internet.ru

Кошкина Ольга Валентиновна – экономика бойынша PhD, әл-Фараби бизнес мектебі, әл-Фараби атындағы Қазақ ұлттық университеті, Алматы қ., Қазақстан Республикасы, ORCID: 0000-0002-0847-3537

E-mail: o.koshkina@mail.ru

Wang Lin* - PhD докторант, DBA, бизнес-школа «Аль-Фараби», Казахский национальный университет имени аль-Фараби, г. Алматы, Республика Казахстан

E-mail: w.lin@internet.ru

Кошкина Ольга Валентиновна - PhD по экономике, бизнес-школа «Аль-Фараби», Казахский национальный университет имени аль-Фараби, г. Алматы, Республика Казахстан, ORCID: 0000-0002-0847-3537

E-mail: o.koshkina@mail.ru