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THE ROLE OF DIGITAL TECHNOLOGIES IN IMPROVING THE EFFICIENCY OF CURRENT ASSETS MANAGEMENT OF THE POST-WAR ECONOMY

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digital technologies, working capital, financial management, accounting automation, ERP systems, predictive analytics, Big Data, artificial intelligence, blockchain.

The article examines the role of digital technologies in enhancing the efficiency of working capital management in industrial enterprises in the post-war economy. After the conflict ends and considering economic instability, there is a need to develop new management strategies that ensure the rapid recovery and sustainable development of enterprises. One such solution is the digitalization of financial management, particularly the automation of accounting processes and the use of modern technologies to optimize working capital management. Contemporary approaches to digitalizing financial management are analyzed, focusing on innovative technologies such as ERP systems, Big Data analytics, artificial intelligence (AI), blockchain, and automated inventory management platforms. The advantages of these technologies are discussed in detail, including the ability to reduce costs, increase the transparency of financial transactions, improve forecasting accuracy, and minimize financial risks. One key aspect is the role of automation in financial and accounting processes. ERP systems, which integrate all enterprise data into a single platform, enable the automation of inventory management, accounts receivable and payable, and contribute to efficient cash flow management. Additionally, the use of Big Data and predictive analytics allows for accurate demand forecasting, optimal inventory levels, and ensures financial stability. The implementation of blockchain technologies promotes transparency in financial transactions and minimizes the risks of fraud and unauthorized interference. Digital payment systems and smart contracts automate transactions with suppliers and significantly reduce the time spent on verifying financial operations. The article highlights the challenges and issues enterprises face when implementing digital solutions, particularly the need for significant financial investments, cybersecurity concerns, and the demand for qualified personnel. Practical recommendations are proposed for the implementation of digital solutions, including the integration of ERP systems, the use of Big Data analytics, the application of artificial intelligence, and machine learning for financial analysis, which reduce costs, improve working capital forecasts, and enhance the efficiency of management processes in industrial enterprises.

РОЛЬ ЦИФРОВИХ ТЕХНОЛОГІЙ У ПІДВИЩЕННІ ЕФЕКТИВНОСТІ УПРАВЛІННЯ ОБОРОТНИМИ ЗАСОБАМИ ПОВОЄННОЇ ЕКОНОМІКИ

Сьомченко В.В., Боровіков О.І.*Запорізький національний університет**Україна, 69011, м. Запоріжжя, вул. Університетська, 66***Ключові слова:**

цифрові технології, оборотні засоби, фінансовий менеджмент, автоматизація обліку, ERP-системи, прогнозна аналітика, Big Data, штучний інтелект, блокчейн.

У статті досліджено роль цифрових технологій у підвищенні ефективності управління оборотними засобами промислових підприємств у повоєнній економіці. Після завершення конфлікту та з урахуванням економічної нестабільності постає необхідність розробки нових стратегій управління, які дозволяють забезпечити швидке відновлення та стійкий розвиток підприємств. Одним із таких рішень є цифровізація фінансового менеджменту, зокрема автоматизація облікових процесів та використання сучасних технологій для оптимізації управління оборотним капіталом.

Проаналізовано сучасні підходи до цифровізації фінансового менеджменту, розглядаючи інноваційні технології, такі як ERP-системи, аналітика великих даних (Big Data), штучний інтелект (AI), блокчейн та автоматизовані платформи для управління запасами. Детально розглянуто переваги цих технологій, зокрема можливість зниження витрат, підвищення прозорості фінансових операцій, точності прогнозування та мінімізації фінансових ризиків. Одним з ключових аспектів є роль автоматизації у фінансово-облікових процесах. ERP-системи, які інтегрують всі дані підприємства в єдину платформу, дають змогу автоматизувати облік запасів, дебіторської та кредиторської заборгованості, а також сприяють ефективному управлінню грошовими потоками. Крім того, застосування Big Data та прогнозної аналітики дозволяє точно оцінювати попит на продукцію, оптимізувати рівень запасів і забезпечити фінансову стійкість підприємств. Застосування блокчейн-технологій сприяє прозорості фінансових транзакцій, а також мінімізації ризиків шахрайства та несанкціонованого втручання. Цифрові платіжні системи та смарт-контракти дозволяють автоматизувати угоди з постачальниками та значно зменшити час на перевірку фінансових операцій. Висвітлено проблеми та виклики, з якими стикаються підприємства при впровадженні цифрових рішень, зокрема необхідність значних фінансових інвестицій, питання кібербезпеки та потребу в кваліфікованих кадрах. Запропоновано практичні рекомендації щодо впровадження цифрових рішень, зокрема інтеграцію ERP-систем, використання аналітики великих даних, застосування штучного інтелекту та машинного навчання для фінансового аналізу, що дозволяють знижувати витрати, покращувати прогнози щодо оборотного капіталу та підвищувати ефективність управлінських процесів у промислових підприємствах.

Statement of the problem

Modern industrial enterprises operate in difficult conditions of war, which is accompanied by significant difficulties: the destruction of production facilities, disruption of logistics chains, shortage of financial resources and increasing uncertainty. War creates an unstable economic environment in which enterprises have great difficulties in ensuring the continuity of their activities. After the end of hostilities, enterprises will have to face the need to restore the economy in the post-war period, which will be an important stage in ensuring stability and restoring normal activity.

The post-war period will bring numerous challenges, in particular the need to restore production facilities, adapt to new market conditions and ensure effective management of working capital. Effective management of such funds will be one of the key factors in maintaining the liquidity, competitiveness and sustainability of enterprises in the recovery process.

Digital technologies play an important role in this process. They make it possible to automate the control and analysis of financial flows, forecast the needs for working capital, effectively manage inventories and receivables. The use of technologies such as artificial intelligence, blockchain, cloud computing and big data analytics allows to increase the accuracy of management decisions, which is especially important for enterprises recovering from the war and requiring rapid adaptation to changes.

The relevance of the topic is due to several factors

First, after the war, the economy is faced with the problem of disruption of production and supply chains, which complicates planning and requires new approaches to managing material flows.

Second, the shortage of financial resources poses the task of enterprises to carefully monitor the movement of cash and receivables. Third, it becomes more difficult to assess the financial stability of counterparties, which increases the risks of partners' insolvency. Finally, in conditions of uncertainty, it is necessary to ensure greater flexibility of management decisions, which is possible only with the introduction of digital technologies and process automation.

Thus, digital technologies are an important tool for modernizing the working capital management system in the conditions of economic recovery after the war. They contribute to the rational use of resources, reduce financial risks and increase the efficiency of enterprises' operational activities. Research into the impact of digitalization on the management of working capital is an important area of significant scientific and practical interest in the context of post-war economic recovery.

Analysis of recent studies and publications

In the current conditions of post-war economic recovery, the management of working capital of industrial enterprises is becoming particularly relevant. This issue is being studied by both Ukrainian and foreign scientists who pay attention to the digital transformation of financial management, automation of accounting processes and the use of advanced technologies to increase the efficiency of financial decisions.

Domestic research focuses on the adaptation of enterprises to changes in the post-war economy. In particular, Kovalenko V.V. analyzes the digital transformation of financial resource management and its impact on the optimization of working capital [1]. Lytvynenko O.P. investigates the possibilities of using big

data analytics to forecast the movement of working capital and minimize financial risks [2]. Considerable attention is also paid to the automation of accounting: Savchenko I.V. in his work considers ERP systems as a tool for financial control and inventory management [3]. In turn, Romanenko S.M. investigates the mechanisms of financial adaptation of enterprises in post-war conditions, focusing on new approaches to managing current assets [4].

Foreign scientists are also actively exploring the possibilities of digitalization in the field of working capital management. For example, Anderson J. and Williams R. analyze how digital solutions affect the efficiency of financial processes and reduce the risks of a shortage of working capital [5]. Miller T. investigates the application of artificial intelligence in supply chain management and inventory optimization [6]. Chen H. and Zhang L. highlight the advantages of blockchain technologies in corporate financial management, in particular for the transparency of cash flows and receivables management [7]. Johnson P.'s research is aimed at developing financial strategies that help enterprises adapt to economic changes in post-crisis conditions [8].

Thus, the analysis of scientific works demonstrates that modern working capital management is impossible without digital technologies. Domestic researchers focus on adaptation mechanisms for Ukrainian enterprises, while foreign authors consider the possibilities of using artificial intelligence, blockchain, and big data analytics. In the future, further research should be aimed at developing integrated digital financial management strategies that will increase the efficiency of industrial enterprises in an unstable economic situation.

Objectives of the article

The aim of the article is to study the role of digital technologies in increasing the efficiency of working capital management of industrial enterprises in the post-war economy. Analysis of modern approaches to the digitalization of financial management, identification of the main challenges and opportunities for using innovative technologies to optimize working capital management, as well as substantiation of practical recommendations for the implementation of digital solutions to increase the sustainability and competitiveness of enterprises.

Statement of the main material

In the post-war economy, industrial enterprises will face numerous challenges related to the resumption of production, resource shortages, instability of the financial system and the need to quickly adapt to changes. In such conditions, effective management of working capital becomes critically important for ensuring business continuity, maintaining liquidity and achieving financial stability. Digital technologies play an important role in this process, which allow optimizing management processes, increasing forecasting accuracy and accelerating decision-making. One of the key aspects of digitalization of working capital management is the automation of financial and accounting processes.

The use of ERP (Enterprise Resource Planning) systems provides comprehensive control over the movement of

assets, allows automating the accounting of inventories, receivables and payables, and also contributes to effective cash flow management. Such systems integrate all financial data of the enterprise into a single platform, which allows for a prompt assessment of the state of working capital and reducing the risks of financial instability [3].

The use of Big Data technologies and predictive analytics makes it possible to accurately assess product demand, optimize inventory levels, and effectively manage financial flows. Thanks to the analysis of large data sets, enterprises can identify key factors affecting working capital, as well as formulate strategies for managing them in an unstable economic environment [2].

Blockchain technologies help increase the transparency of financial transactions and minimize the risks of fraud. Smart contracts allow you to automate transactions with suppliers and simplify the payment control process, which is especially important during the period of economic recovery, when trust in financial partners plays a key role. In addition, digital payment systems provide speed and reliability of transactions, which allows enterprises to manage their financial resources more effectively.

The use of cloud technologies allows industrial enterprises to quickly adapt to changes, reducing infrastructure costs and providing access to data in real time. Digital platforms for supply chain management allow you to effectively coordinate interaction with suppliers, optimizing the level of current assets and minimizing the costs of their maintenance [4].

Thus, digital technologies play an important role in increasing the efficiency of current asset management of industrial enterprises in an unstable economic environment. They contribute to the automation of business processes, increasing forecasting accuracy, accelerating financial transactions and improving the overall resilience of enterprises to economic challenges. The use of modern digital tools allows not only to optimize working capital management, but also creates the basis for the stable development of the industrial sector in the conditions of recovery. One of the key modern approaches to the digitalization of financial management is the automation of working capital management processes. The use of specialized software solutions allows for real-time analysis of cash flows, receivables and payables, inventory status and financial risks. This provides flexibility in decision-making and allows enterprises to quickly respond to changes in the economic situation. At the same time, the widespread use of predictive analytics based on Big Data technologies makes it possible to accurately assess the need for financial resources, plan expenses and determine optimal financial strategies.

Despite the obvious advantages of digitalization, the process of its implementation is accompanied by certain challenges. One of the main problems is the need for significant financial investments in the implementation and support of modern information systems. For many companies, raising funds for such projects is a difficult task. An additional challenge is the need to ensure cybersecurity, as the digitalization of financial processes increases the risks of confidential data leakage and

fraudulent transactions. In addition, the problem of human resources plays a significant role: there is still a shortage of qualified specialists who can work effectively with the latest digital financial instruments [1].

Despite these difficulties, the digitalization of financial management opens up wide opportunities for optimizing working capital management. In particular, the use of blockchain technologies allows making financial transactions more transparent and secure, eliminating the risks of fraud and unauthorized intervention. The integration of digital financial management platforms and the automation of financial transactions allows enterprises to reduce costs, reduce payment processing time and increase efficiency.

Modern approaches to the digitalization of financial management also involve the active use of cloud technologies that provide access to financial data from anywhere in the world. This allows enterprises to effectively manage financial flows even in difficult conditions, when access to traditional financial instruments may be limited.

For a deeper understanding of the main challenges and opportunities for digitalization of working capital

management, it is advisable to compare traditional and digital management methods in Table 1.

Analyzing the data in Table 1, we can conclude that digital methods of working capital management significantly outperform traditional methods in terms of data processing speed, transparency of operations, forecasting accuracy, and security. The use of modern technologies, such as blockchain, ERP systems, Big Data analytics, and artificial intelligence, allows enterprises to reduce costs, automate financial processes, and increase the efficiency of capital management.

However, the transition to digitalization is not without certain challenges. The main ones are the need for significant financial investments in new technologies, as well as the need to train personnel to effectively use new tools. At the same time, the introduction of innovative technologies opens up new opportunities for optimizing working capital management, in particular through the integration of modern tools for automatic analysis, forecasting, and monitoring of financial flows [9].

Figure 1 shows the main challenges and opportunities associated with the use of innovative technologies to optimize working capital management.

Table 1 – Traditional and digital methods of working capital management

Parameter	Traditional methods	Digital methods
Transparency of operations	Limited, high level of paper document flow	High, thanks to blockchain technologies and ERP systems
Data processing speed	Slow, depends on the human factor	High, real-time processing
Forecasting accuracy	Limited, based on historical data	High, analytics based on Big Data and AI
Cybersecurity	Relatively low, paper document risks	High, use of cryptography and secure servers
Management costs	High due to the involvement of a large number of personnel	Reduced due to process automation

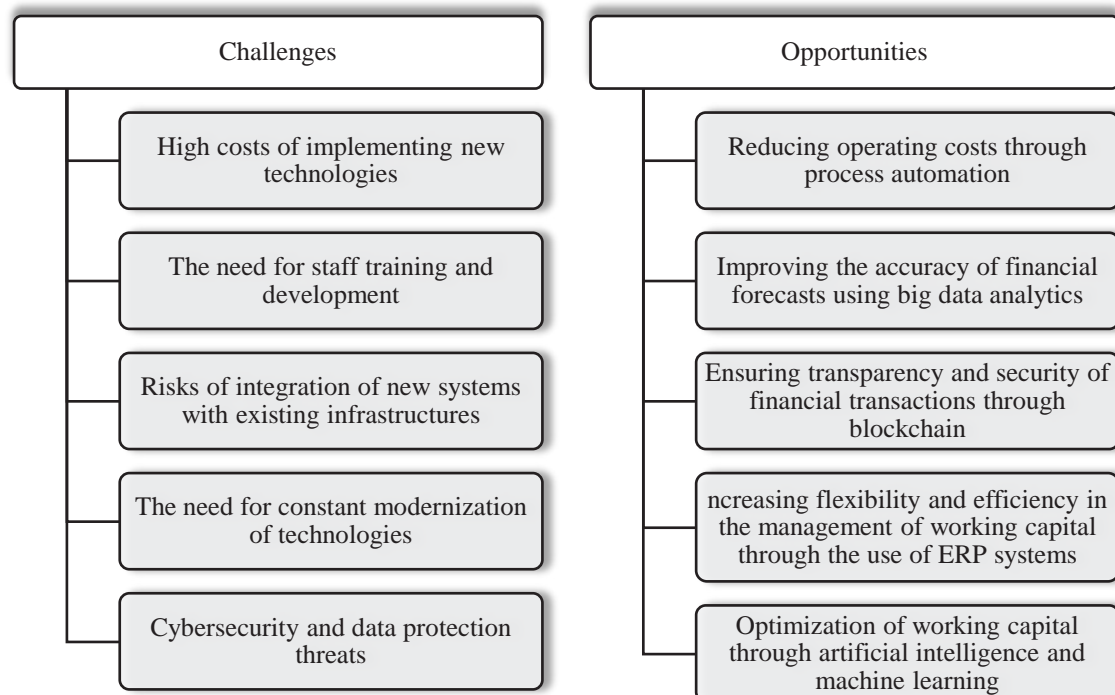


Fig. 1 – Main challenges and opportunities associated with the use of innovative technologies to optimize working capital management

It should be noted that although the introduction of innovative technologies into financial management is accompanied by certain challenges, their potential for increasing the efficiency of working capital management is significant.

Thus, digital technologies open up new prospects for the effective management of working capital of industrial enterprises during an unstable economic situation. They ensure the accuracy of financial forecasting, reduce the costs of administrative processes, increase the level of security of financial transactions and contribute to rapid decision-making.

The use of modern digital solutions allows enterprises to adapt to new realities and form effective financial strategies, which is a key factor in their sustainable development [10].

For effective management of working capital in the post-war economy, industrial enterprises should implement modern digital technologies that will help increase financial stability, reduce costs and improve the flexibility of business processes. Below are key practical recommendations for the digitalization of working capital management.

The proposed recommendations for the implementation of digital solutions in the management of working capital of industrial enterprises provide an opportunity to significantly increase the efficiency of financial management and adapt to the conditions of the post-war economy. The integration of ERP systems, the use of big data analytics, the implementation of artificial intelligence and blockchain technologies allow to reduce operating costs, ensure transparency and security of financial transactions, as well as optimize the management of inventories and working capital.

Digital solutions will help enterprises to increase the efficiency of financial decision-making, reduce the time for document processing, and reduce the risks of errors and fraud. The implementation of these technologies will be a key factor in achieving the sustainability and

competitiveness of enterprises in the conditions of rapid changes in the post-war economy, where flexibility and speed of response to external challenges are crucial for success. The proposed measures are aimed at maximizing the use of digital technologies to increase the efficiency of the management of working capital of enterprises. The implementation of ERP systems and automated inventory management allows enterprises to minimize losses, optimize logistics processes and increase financial discipline [3].

The use of Big Data and artificial intelligence significantly improves the accuracy of forecasting the needs of an enterprise in financial resources, which makes it possible to reduce the risks of cash gaps and working capital shortages. Blockchain technologies and electronic document management increase the level of security of financial transactions, ensure their transparency and minimize administrative costs [2].

Taken together, these measures allow enterprises not only to adapt to the challenges of the post-war economy, but also to create competitive advantages through the rapid adoption of sound financial decisions, minimizing costs and increasing operational efficiency.

Conclusions

Based on the research conducted, we note that modern current asset management is impossible without the use of innovative technologies, such as ERP systems, big data analytics, artificial intelligence, blockchain and cloud platforms. These technologies significantly improve the accuracy of financial forecasts, increase the transparency of operations, reduce management costs and ensure better adaptation of enterprises to changes in an unstable economic environment.

The analysis showed that the digitalization of financial processes not only allows you to optimize inventory accounting and financial flow management, but also

Table 2 – Practical recommendations for implementing digital solutions

№	Digitalization direction	Solution description	Expected results
1	Using ERP systems	Integration of digital platforms for enterprise resource management, automation of inventory control processes, receivables and payables.	Optimization of working capital, increasing transparency of financial transactions, reducing decision-making time.
2	Big Data Analytics	Using analytical platforms to process large amounts of financial and operational data to forecast financial and inventory needs.	Reducing the risk of financial losses, increasing the accuracy of current asset planning.
3	Implementation of artificial intelligence and machine learning	Automation of financial analysis and calculations, creation of algorithms for forecasting working capital based on historical data.	Reduction of errors in calculations, increase of accuracy of financial planning, reduction of the human factor.
4	Blockchain technology	Using blockchain to increase the security of financial transactions, ensure the reliability and transparency of data on working capital.	Reducing the risk of fraud, increasing trust in financial transactions, reducing the cost of verifying financial documents.
5	Automated inventory management	Implementation of digital systems for controlling the balance of material resources, use of IoT for monitoring warehouses.	Reduction of excess inventory, acceleration of capital turnover, minimization of storage costs.
6	Electronic Document Management (EDM)	Automation of accounting for financial documentation, implementation of electronic signature, digital contracts and acts.	Reduction of costs for document management, increase in speed of processing of financial transactions, reduction of bureaucratic procedures.

minimizes the risks of fraud, increases cybersecurity and reduces the impact of the human factor. At the same time, the process of implementing new technologies is accompanied by certain challenges, in particular the need for significant investments and training qualified personnel.

In view of this, it is recommended to more actively implement digital solutions, in particular ERP systems,

analytical platforms for processing big data and artificial intelligence technologies, which will not only optimize the management of working capital, but also create a foundation for the stable development of enterprises in the period of post-war recovery. Digitalization is a key factor for increasing the resilience, competitiveness and financial stability of industrial enterprises in the future.

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