Секція А1 Освітні науки	
УДК 658.5.012:658.7	
DOI	
Дата першого надходження статті до видання	2026-03-16
Дата прийняття статті до друку після рецензування	2026-04-25
Дата публікації/оприлюднення	2026-04-30

Інтегроване логістичне обслуговування та оптимізація ресурсного забезпечення як драйвери ефективності менеджменту виробництва

Сігаєва Тетяна Євгеніївна
кандидат економічних наук, доцент, доцент кафедри менеджменту, логістики та інновацій, Харківський національний економічний університет імені Семена Кузнеця, 61166 м. Харків, Україна
tetiana.sigaieva@gmail.com
https://orcid.org/0000- 0003-0948-7233

Анотація. У статті розглядаються особливості управління закупівлями на виробничих підприємствах, що функціонують в умовах нестабільного зовнішнього середовища. Мета статті полягає в обґрунтуванні стратегічних підходів та розробці практичних рекомендацій щодо оптимізації ресурсного забезпечення в загальній системі менеджменту виробництва товарів та послуг задля підвищення операційної стійкості підприємств в умовах високої турбулентності зовнішнього середовища.

У дослідженні використано комплекс загальнонаукових методів, зокрема аналіз, синтез та систематизацію для уточнення теоретичних засад ресурсного менеджменту. Прикладний інструментарій дослідження базується на використанні стратегічної матриці Краліча, що дозволило класифікувати матеріальні ресурси за ступенем ризику постачання та рівнем їхнього впливу на фінансові результати діяльності промислового підприємства.

У ході дослідження встановлено, що сучасні системи менеджменту виробництва товарів та послуг, попри високий рівень автоматизації, залишаються критично вразливими до екзогенних шоків, таких як розриви глобальних логістичних ланцюгів, різка зміна регуляторної політики та значна цінова волатильність. Доведено, що традиційні лінійні моделі постачання потребують трансформації в бік гнучкого управління, що передбачає створення диференційованих страхових резервів для різних груп матеріальних активів. Визначено, що оптимізація ресурсного забезпечення повинна базуватися на розподілі стратегій взаємодії з контрагентами: від пасивного моніторингу для некритичних товарів до формування довгострокових стратегічних партнерств для дефіцитних ресурсів. Автором запропоновано алгоритм впровадження системи превентивного моніторингу логістичних та фінансових ризиків, що дозволяє суттєво мінімізувати ризики зупинки виробничих ліній та оптимізувати складські запаси.

Наукова новизна дослідження полягає в удосконаленні моделі ресурсного забезпечення в системі операційного менеджменту, яка, на відміну від існуючих підходів, інтегрує інструменти валютного хеджування та стратегічної локалізації постачальників як ключові елементи нейтралізації зовнішніх економічних загроз.

Практичне значення отриманих результатів полягає у можливості їхнього безпосереднього впровадження керівниками виробничих департаментів та відділів

e-ISSN: 2786-586X

закупівель для розробки внутрішніх регламентів управління потоками ресурсів. Впровадження запропонованих заходів дозволить підприємствам знизити питомі операційні витрати на 10–15% та забезпечити безперервність циклу створення доданої вартості навіть у кризових умовах.

Ключові слова: Ланцюги постачання, операційна стійкість, логістичні ризики, матриця Краліча, бізнес-процеси, промислове підприємство, стратегічне партнерство, турбулентність.

Integrated logistics service and resource supply optimization as drivers of production management efficiency

Sigaieva Tetiana Evgeniivna
PhD in Economics, Associate Professor, Associate Professor at the Department of Management, Logistics and Innovations, Simon Kuznets Kharkiv National University of Economics, 61166, Kharkiv, Ukraine
tetiana.sigaieva@gmail.com
https://orcid.org/ 0000-0003-0948-7233

Abstract. The article examines the features of procurement management in manufacturing enterprises operating under conditions of an unstable external environment. The purpose of the article is to substantiate strategic approaches and develop practical recommendations for optimizing resource supply within the overall management system of goods and services production to enhance the operational resilience of enterprises in a highly turbulent external environment.

The research utilizes a complex of general scientific methods, including analysis, synthesis, and systematization, to refine the theoretical foundations of resource management. The applied research toolkit is based on the use of the strategic Kraljic matrix, which allowed for the classification of material resources according to the degree of supply risk and their level of impact on the financial performance of an industrial enterprise.

The research established that modern management systems to produce goods and services, despite a high level of automation, remain critically vulnerable to exogenous shocks, such as disruptions in global logistics chains, sharp changes in regulatory policy, and significant price volatility. It is proven that traditional linear supply models require transformation towards flexible management, which involves creating differentiated safety stocks for various groups of material assets. It is determined that the optimization of resource supply should be based on the distribution of interaction strategies with counterparties: from passive monitoring for non-critical goods to the formation of long-term strategic partnerships for scarce resources. The author proposes an algorithm for implementing a system for preventive monitoring of logistical and financial risks, which allows for a significant minimization of the risks of production line shutdowns and the optimization of warehouse stocks.

The scientific novelty of the research lies in the improvement of the resource supply model within the operational management system, which, unlike existing approaches, integrates currency hedging tools and strategic localization of suppliers as key elements for neutralizing external economic threats.

The practical significance of the results obtained lies in the possibility of their direct implementation by heads of production departments and procurement offices to develop internal regulations for managing resource flows. The implementation of the proposed measures will allow enterprises to reduce specific operating costs by 10–15% and ensure the continuity of the value creation cycle even under crisis conditions.

e-ISSN: 2786-586X

Keywords: Supply chains, operational resilience, logistical risks, Kraljic matrix, business processes, industrial enterprise, strategic partnership, turbulence

Вступ

Актуальність проблеми. In the context of global economic instability and military risks, the functioning of energy engineering enterprises acquires strategic importance for the country's energy security. Modern industrial facilities face unprecedented challenges: the disruption of traditional logistical chains, the blockage of import routes, and a sharp increase in prices for energy carriers and raw materials. In particular, recent trends demonstrate an increase in the price of metal products by 40 – 60%, which significantly raises the cost of finished goods. The optimization of production management through the transformation of procurement activities is becoming a critical condition for maintaining operational resilience and preventing downtime of high-tech production lines.

Аналіз останніх досліджень і публікацій. The issues of procurement management and resource optimization are a subject of discussion among many scholars. The organization of material resource supply is thoroughly analyzed by Isaienko A. A. [1], who focuses on classical inventory planning methods. In contrast, Melnykova K. V. and Zhernovoy A. S. [4] propose a modernized approach, emphasizing the use of information technologies during military periods to increase transaction transparency.

Researches by Kuznyak B., Valyavsky S. and Reznik A. [2] and Karadzov V. [8] aim at overall procurement enhancement; however, Kolisnyk views this through the lens of general management, while Karadzov pays more attention to operational aspects. Procurement logistics in micrologistic systems are explored by Melnykova K. V. and Diakiv A. B. [3], complementing Iastremska O. M.'s [5] concept regarding the importance of synchronizing supplies with production schedules.

Among foreign researchers, there is a trend toward greening and digitalization. Thus, Waqar A. et al. [15] argue that sustainable procurement is the basis for supply chain metamorphosis, while Perdana A. [12] and Puspita D. P. [23] focus on portfolio analysis tools and organizational transformation. Compared to them, Ceko E. [14] emphasizes the connection between ISO standards and sustainable development, which contrasts with Hanif M.'s [7] applied methods for implementing IEC technical standards.

Meanwhile, an analysis of works by Karadzhov V. [8] and modern reports from Microsoft Dynamics [11] shows the advantages of digital platforms over traditional analysis methods. However, despite the significant number of publications, most of the mentioned authors do not offer an integrated solution for machine-building enterprises that combine matrix resource analysis with financial hedging instruments in prolonged crisis conditions.

Виділення невирішеної частини проблеми. Despite the existence of theoretical developments, the issue of integrating financial hedging tools and strategic localization of production into a unified management system to produce goods and services for large industrial enterprises operating with a long production cycle remains unresolved.

Мета статті. The purpose of the article is to substantiate a comprehensive model for optimizing the resource supply of a enterprise through the implementation of a risk management system, hedging instruments, and a matrix approach to category management.

Наукова новизна. The scientific novelty of the article lies in the improvement of the goods production management model by integrating currency hedging tools and strategic

e-ISSN: 2786-586X

supplier localization into the resource supply system, which, unlike existing approaches, allows for neutralizing the impact of military and financial risks on the continuity of the production cycle.

Furthermore, the matrix approach to category management (based on the Kraljic matrix) has undergone further development, being adapted to the specifics of machine-building enterprises with long value-creation cycles in an unstable market environment.

Практичне значення. The practical significance of the obtained results lies in the possibility of their implementation by industrial enterprise managers to develop internal procurement management regulations and import substitution strategies, ensuring a 10 – 15% reduction in operating costs and increasing supply chain resilience to external shocks

Методологія

Методи дослідження. The research utilized systemic decomposition to structure the resource management system and identify functional gaps. The Kraljic Matrix was applied for the strategic grouping of over 500 material resource units. Expert estimation was used to determine weighting coefficients for supplier reliability, while business process modeling facilitated the development of risk management algorithms and hedging schemes.

Джерела даних. The empirical basis consisted of analytical materials from a large-scale manufacturing enterprise. This included data from internal accounting and management automation systems regarding procurement volumes and lead times over a three-year period, alongside surveys of 12 specialists in supply and operational management.

Інструменти аналізу. Data processing and analytical calculations were performed using standard spreadsheet application software. The visualization of matrix models and graphical representation of findings were executed via specialized graphical management system design tools.

Обмеження дослідження. The findings apply to large-scale industrial enterprises with complex technological cycles (specifically power engineering). These approaches may require adaptation for small businesses or sectors with short operational cycles due to differing levels of procurement.

Результати

The analysis of the procurement management system shows that procurement processes are organized according to a standardized scheme that includes several sequential stages: formation of requests by production units, agreement of technical requirements, supplier market analysis, conducting tenders or negotiations, contract conclusion, and control of delivery and acceptance.

The use of an information management system ensures the automation of key procurement processes, including request registration, contract management, and delivery monitoring. This contributes to increased transparency and reduction of operational risks [2].

The main advantages and disadvantages of the procurement management system are summarized in table 1.

Table 1

Balanced overview of the advantages and risks of the procurement management system

No.	Aspect	Characteristics
Positive aspects of the procurement management system		

e-ISSN: 2786-586X

1	Automation of procurement processes	The implementation of a modern ERP system allows for the automation of key processes: creation and approval of requests, contract accounting, delivery monitoring, and reporting. This ensures process transparency, the ability to track procurement history, and reduces the risk of errors in documentation.
2	Formalized supplier evaluation system	The company uses a multi-criteria approach to evaluate and select suppliers, considering price, product quality, supply reliability, financial stability, and terms of cooperation. It should be emphasized that thorough verification of new suppliers minimizes risks and ensures cooperation with reliable partners.
3	Category management	The company has implemented a category-based approach to procurement management, where material resources are divided into categories depending on their strategic importance and market conditions. This allows for the optimal distribution of procurement efforts and the application of the most effective strategies for each category of materials.
4	Integration with production planning	The established exchange of information between the supply department and production units ensures the timely formation of requests with detailed technical requirements and sufficient lead time. It should be noted that this minimizes the risks of emergency procurement and production downtime due to material shortages.
5	Use of modern procurement tools	The company actively uses B2B platforms and electronic trading platforms to search for suppliers and conduct competitive procurement procedures. This expands the circle of potential partners and ensures greater transparency of procurement processes.
6	Supply risk management	Ehe company has implemented procedures for monitoring the financial condition of key suppliers, developed action plans in case of critical supply disruptions, and formed insurance reserves for critically important materials. This ensures stability of supply even in conditions of martial law.
7	International cooperation experience	Domestic machine-building enterprises have extensive experience in importing high-tech components from leading global manufacturers. Established logistical channels, refined currency settlement schemes, and streamlined customs procedures ensure effective cooperation with foreign suppliers
8	Adaptability to crisis conditions	Since the start of the full-scale invasion, the company has demonstrated its ability to quickly reorient itself: abandoning russian suppliers, searching for alternatives in Poland, the Czech Republic and other countries, and switching to domestic manufacturers of similar products. Mechanisms for accelerated procurement approval in critical situations have been implemented.
Negative aspects of the procurement management system		

e-ISSN: 2786-586X

1	Import complexity under martial law	Military actions have significantly complicated imports of critical components. Logistical risks due to damage to transport infrastructure led to delays in deliveries and the need to use longer and more expensive routes. It should be noted that customs clearance has become more complicated and time-consuming due to increased controls. Currency volatility complicates the planning of import procurement costs and requires constant budget revisions.
2	Rising material and component prices	Inflation and the war have led to a significant increase in prices for basic categories of materials. Metal products have risen in price by 40-60%, energy carriers by 30-50%, and imported components by 20-35% due to logistics surcharges and currency fluctuations. It should be emphasized that this significantly increases the cost of production and worsens the financial performance of the company, with limited opportunities to increase prices for finished products.
3	Dependence on imported components	The company remains largely dependent on imports of high-tech components (special bearings, electronic control systems, precision measuring instruments), which are either not manufactured in Ukraine or do not meet technical requirements. It should be noted that the possibilities for localizing the production of these components are limited by high investment costs, the need for technology transfer and a long period of production development.
4	Limited 1C system functionality	Although ERP system provides basic procurement automation, it has limited functionality for the specific needs of a machine-building company. There are no tools for conducting complex multi-criteria analysis of suppliers, limited integration capabilities with specialized B2B platforms, and insufficient analytics for strategic procurement management. It should be noted that adapting the system to specific needs requires significant development costs.
5	Constant regulatory adaptation requirement	Martial law, international sanctions and changes in customs legislation require constant monitoring of the regulatory framework and rapid adaptation of procurement procedures. This requires additional labor costs to research changes, consult with lawyers and review contractual terms with suppliers. Uncertainty about future changes complicates long-term procurement planning.

Source: compiled by the authors.

The results presented in table 1 indicate that the procurement management system of the enterprise is generally characterized by a high level of formalization and digital support. In particular, the implementation of ERP systems and category management approaches ensures transparency of procurement procedures and improves coordination between structural units. This corresponds to modern trends in procurement digitalization, where automation is considered a key factor in reducing transaction costs and increasing decision-making efficiency [4].

At the same time, the identified shortcomings demonstrate that even highly organized procurement systems remain vulnerable to external environmental factors. The dependence on imports of high-tech components, combined with currency volatility and logistical disruptions, creates systemic risks for production continuity.

e-ISSN: 2786-586X

Thus, the analysis confirms that the effectiveness of procurement management should be evaluated not only through internal efficiency indicators but also through the ability of the system to respond flexibly to external shocks.

A considerable part of the negative aspects is associated with external factors, including supply chain disruptions, price volatility, and regulatory changes. Internal limitations include dependence on imported components and insufficient functionality of information systems.

As illustrated in figure.1, most of the negative factors are externally driven, which highlights the importance of developing resilient procurement strategies.

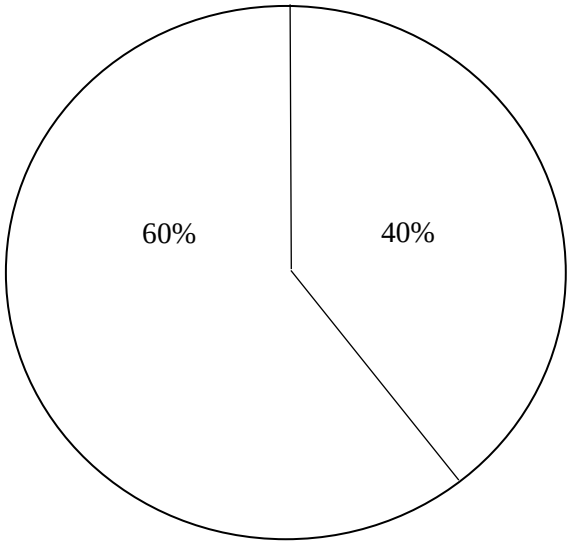

Fig.1. Distribution of negative aspects of the procurement management system

Source: compiled by the authors.

The distribution of negative factors illustrated in figure 1 clearly demonstrates the dominance of external risks over internal limitations. This finding confirms that modern procurement systems operate in an environment where uncertainty is largely determined by macroeconomic and geopolitical conditions. In particular, disruptions in global supply chains and instability in regulatory frameworks significantly affect procurement planning and execution.

At the same time, the prevalence of external risks does not eliminate the need to improve internal processes. On the contrary, it necessitates the development of proactive management mechanisms capable of anticipating and mitigating potential disruptions. Therefore, enterprises should focus on building adaptive procurement systems that combine risk monitoring, supplier diversification, and strategic planning tools.

To improve procurement efficiency, it is advisable to apply modern analytical tools, particularly the Kraljic matrix, which allows classification of procurement items based on their strategic importance and supply market complexity. The application of this approach ensures the development of differentiated procurement strategies depending on the level of supply risk and the impact of specific resource groups on the enterprise's operational performance. Portfolio-based analysis contributes to increasing the flexibility and adaptability of procurement systems, as well as improving the quality of managerial decision-making under conditions of uncertainty.

Based on the conducted analysis of the enterprise's material resource structure, the grouping of procurement items according to the Kraljic matrix is presented in table 2.

e-ISSN: 2786-586X

Table 2

Kraljic matrix analysis of the enterprise procurement

Criterion	High impact on activities	Low impact on operations
A complex supply market	STRATEGIC ITEMS High-precision bearings for turbines; Electronic control systems; Special steels and alloys; Premium welding materials; Strategy: partnerships, long-term contracts, market monitoring.	BOTTLENECK ITEMS Specific consumables; Rare chemical reagents ; Specialized tools; Strategy: ensuring availability, safety stocks, searching for alternatives.
Criterion	High impact on activities	Low impact on operations
Simple supply market	LEVERAGE ITEMS Standard metal products; Electricity; Fuel; Basic electrical components; Strategy: competitive procedures, consolidation of procurement, negotiations on discounts.	NON-CRITICAL ITEMS Office supplie; Personal protective equipment Household materials; Stationer; Strategy: simplified procedures, consolidation of orders, electronic catalogues.

Source: compiled by the authors.

The application of the Kraljic matrix, as presented in table 2, provides a structured approach to procurement management by differentiating resources according to their strategic importance and supply risk. This classification allows enterprises to move away from universal procurement strategies and instead adopt tailored approaches for each category of materials.

Strategic items require the development of long-term partnerships and continuous market monitoring, while leverage items offer opportunities for cost optimization through competitive procurement procedures. Bottleneck items necessitate the creation of safety stocks and the search for alternative suppliers, whereas non-critical items can be managed using simplified procedures and digital procurement tools [9].

1. Implementation of a supply risk management system

The obtained results indicate that under conditions of external instability, supply risks become a critical factor affecting the continuity of production processes. Logistical disruptions, financial instability of suppliers, and shortages of key materials significantly increase the probability of production downtime. Therefore, the implementation of a comprehensive supply risk management system is a necessary condition for ensuring operational resilience.

It is proposed to introduce regular monitoring of the financial condition of key suppliers, including the analysis of financial statements and verification of legal risks. In addition, the formation of safety stocks for critically important materials at the level of 1.5–2 months of demand is justified as a tool for ensuring production continuity. The development of contingency plans for potential disruptions, including supplier failure or logistical delays, further enhances the adaptability of the procurement system.

The expected effect of implementing such a system lies in reducing the likelihood of production downtime, improving the predictability of supply processes, and minimizing financial losses associated with disruptions. The enterprise's readiness for implementation is confirmed by the existing experience of operating under uncertainty and partial application of risk management practices, which require formalization and systematization.

2. Implementation of a currency risk hedging strategy

e-ISSN: 2786-586X

The research confirms that currency volatility is one of the key factors influencing the efficiency of procurement activities, especially in enterprises dependent on imported components. Fluctuations in exchange rates complicate cost planning and may lead to significant deviations in procurement budgets [10, 14].

The introduction of a currency risk hedging strategy is therefore justified as an effective tool for stabilizing financial flows. The use of forward contracts allows fixing exchange rates for future transactions, ensuring predictability of procurement costs. Additionally, the diversification of payment currencies and the accumulation of foreign currency reserves during favorable market conditions contribute to reducing financial risks.

It is also advisable to include contractual provisions that regulate price adjustments depending on exchange rate fluctuations within predefined limits. Such measures ensure flexibility in financial relations with suppliers and reduce uncertainty.

The expected results include increased accuracy of financial planning, reduction of losses from currency fluctuations, and improvement of pricing policy stability. The implementation of this recommendation requires coordination between procurement and financial departments, as well as the development of relevant competencies among specialists.

Development of an import substitution and production localization program

The results of the study demonstrate that dependence on imported components remains one of the key vulnerabilities of procurement systems. This dependence not only increases logistical risks but also leads to higher production costs due to transportation and customs expenses.

The development of a localization strategy is therefore a priority direction for strengthening supply chain resilience. It is proposed to identify a group of imported components with high potential for localization and assess domestic production capabilities.

Cooperation with local manufacturers may include the transfer of technical requirements, quality control procedures, and the implementation of pilot production orders. In strategically important cases, the creation of joint ventures or investment in the development of domestic production capacities can be considered.

The expected outcomes include a reduction in import dependence, lower logistics costs, increased reliability of supply, and support for the development of national industry. The implementation of this strategy requires a phased approach and strategic decision-making, considering technological and financial constraints.

The research showed that, although the existing ERP system provides basic automation of procurement processes, its analytical capabilities remain limited. This restricts the ability to carry out comprehensive supplier assessments and to integrate procurement processes with production planning.

The expansion of system functionality through the integration of specialized analytical modules is therefore justified. These modules should provide tools for multi-criteria supplier evaluation, automated reporting, and visualization of key procurement indicators. Integration with digital procurement platforms will further enhance market transparency and expand supplier selection opportunities [11, 13].

In addition, the synchronization of procurement systems with production planning modules will allow automatic generation of material requirements, improving coordination between departments.

The expected results include increased efficiency of analytical processes, faster decision-making, improved data accuracy, and enhanced integration of business processes.

Обговорення

Інтерпретація результатів. The obtained results indicate that the supply management system at industrial enterprises, despite a high level of digitalization, remains significantly dependent on external factors. The dominance of exogenous risks, including disruptions in

e-ISSN: 2786-586X

logistics chains, currency instability, and regulatory changes, is explained by the high level of integration of enterprises into global supply markets and the significant share of imported components in the structure of material resources.

The results confirm that traditional supply chain management approaches focused on cost minimization and supply stability are insufficient under conditions of a turbulent environment. This is consistent with studies emphasizing the need to transition toward adaptive resource management models, which include differentiated procurement strategies and the formation of safety stocks.

The application of the Kraljic matrix revealed that different categories of material resources have unequal impacts on production continuity. Strategic resources create critical risk points, while for non-critical resources, cost optimization is the key factor. This pattern is explained by the varying degree of dependence of production processes on specific resource groups and the complexity of their substitution.

In addition, it has been established that the integration of financial instruments, particularly currency hedging, into the supply management system reduces the impact of exchange rate fluctuations on production costs, which is especially relevant in conditions of financial market instability**.**

Порівняння з іншими дослідженнями. The results obtained are consistent with the findings of Isaienko A. A. [1], who substantiates the need for a systemic approach to material resource supply management. However, the present study extends these findings by incorporating the context of martial law and increased uncertainty.

The results also correlate with the research of Melnykova K. V. and Zhernovoy A. S. [4], who emphasize the importance of digitalization in procurement processes. At the same time, this study demonstrates that digitalization alone is insufficient to ensure system resilience without the integration of risk management instruments.

However, the findings partially differ from the approach of Ceko E. [6], who focuses primarily on internal optimization of procurement processes. This study establishes that the key determinant of efficiency is the system's ability to adapt to external shocks, which goes beyond traditional optimization approaches.

The results are also consistent with international studies highlighting the need to enhance supply chain resilience and transformation under global challenges. However, unlike these studies, this research introduces the integration of financial instruments into procurement systems, thereby extending existing approaches.

Thus, the results confirm general scientific trends while simultaneously contributing new managerial solutions [8].

Наукова новизна (розгорнуто). The scientific novelty of the research is as follows:

For the first time:

-a comprehensive supply management model has been proposed, integrating logistical, managerial, and financial instruments, including currency hedging and strategic supplier localization;

-the feasibility of combining matrix-based resource analysis with financial risk management mechanisms under unstable conditions has been substantiated.

Improved:

e-ISSN: 2786-586X

-the application of the Kraljic matrix through its adaptation to conditions of high turbulence and wartime risks;

-the mechanism for forming procurement strategies by considering not only economic but also risk-oriented parameters.

Further developed:

-theoretical provisions on resource supply management under global instability conditions;

-approaches to building resilient supply chains based on supplier diversification and procurement digitalization.

Практичне значення (розгорнуто). The practical significance of the results obtained lies in their direct applicability in industrial enterprises, particularly in the mechanical engineering sector.

The proposed approaches may be used by:

heads of procurement departments to develop effective supply strategies;

production managers to ensure uninterrupted manufacturing processes;

financial departments to manage currency risks;

top management in designing anti-crisis development programs.

The implementation of the proposed recommendations enables:

a reduction in operating costs by 10 –15%;

minimization of production downtime risks;

increased reliability of critical material supply;

optimization of inventory levels.

In addition, the use of currency hedging instruments ensures financial stability, while the development of supplier localization reduces import dependence and strengthens the economic security of enterprises.

Висновки

Procurement management plays a crucial role in ensuring the stability and efficiency of industrial enterprise operations, particularly under conditions of economic instability and global uncertainty.

It has been established that the procurement management system at an industrial enterprise is characterized by a high level of formalization and digitalization, which ensures transparency of procedures, increased process control, and reduction of operational risks.

It has been determined that the effectiveness of the procurement system largely depends on external factors, including supply chain disruptions, currency volatility, and changes in the regulatory environment, which constitute the main risks to supply continuity.

It has been substantiated that the application of the Kraljic matrix enables the differentiation of material resources according to their strategic importance and supply complexity, thereby providing a basis for the development of adaptive procurement strategies depending on resource categories.

The feasibility of implementing an integrated procurement management approach has been proven, combining risk management tools, currency hedging, supplier diversification, and production localization in order to enhance enterprise resilience to external shocks.

It has been established that expanding the functionality of procurement information systems and their integration with production planning contributes to improving analytical

e-ISSN: 2786-586X

support, accelerating managerial decision-making, and enhancing coordination between organizational units.

Prospects for further research include the development of quantitative models for evaluating the effectiveness of the proposed measures, as well as the exploration of artificial intelligence tools and predictive analytics to improve the adaptability of procurement systems under conditions of uncertainty.

Список використаних джерел

1. Ісаєнко А. А. Сучасні підходи до організації постачання матеріальних ресурсів на підприємствах транспортної логістики. Конкурентоспроможність та інновації: проблеми науки та практики : матеріали XX Міжнар. наук.-практ. інтернет-конф. (Харків, 21 листоп. 2025 р.). Харків : ФОП Лібуркіна Л. М., 2025. С. 209–212. URL: https://repository.hneu.edu.ua/handle/123456789/38491 (дата звернення: 01.05.2026).
2. Кузняк Б. Я., Валявський С. М., Різник А. В. Формування ефективних взаємовідносин з постачальниками у закупівельній діяльності підприємства. Ефективна економіка. 2021. № 12. – URL: http://www.economy.nayka.com.ua/?op=1&z=9719 (дата звернення: 01.05.2026). DOI: 10.32702/2307-2105-2021.12.7
3. Мельникова К. В., Дяків А. Б. Особливості закупівельної діяльності в мікрологістичних системах. Конкурентоспроможність та інновації: проблеми науки та практики : матеріали XVII Міжнар. наук.-практ. інтернет-конф. (Харків, 24 листоп. 2023 р.). Харків : ФОП Лібуркіна Л. М., 2023. С. 504–507. URL: https://repository.hneu.edu.ua/handle/123456789/30942 (дата звернення: 01.05.2026).
4. Мельникова К. В., Жерновой А. С. Удосконалення закупівельної діяльності підприємства з використанням сучасних інформаційних технологій у воєнний період. Конкурентоспроможність та інновації: проблеми науки та практики : матеріали XVII Міжнар. наук.-практ. інтернет-конф. (Харків, 21 листоп. 2025 р.). Харків : ФОП Лібуркіна Л. М., 2025. С. 309–314. URL: https://repository.hneu.edu.ua/handle/123456789/38282 (дата звернення: 01.05.2026).
5. Ястремська О. М., Акіншина Ю. С. Особливості організації закупівельної логістики на підприємстві. Конкурентоспроможність та інновації: проблеми науки та практики : матеріали XVII Міжнар. наук.-практ. інтернет-конф. (Харків, 25 листоп. 2022 р.). Харків : ФОП Лібуркіна Л. М., 2022. С. 725–728. URL: https://repository.hneu.edu.ua/handle/123456789/30581 (дата звернення: 01.05.2026).
6. Ceko E. On the Relationship Between ISO Standards and Sustainable Development. Problems of Sustainable Development. 2023. No. 18 (2). P. 148–158. DOI: https://doi.org/10.35784/preko.3953
7. Hanif M. Introduction to IEC Standards. International Electrotechnical Commission. 2022. URL: https://www.researchgate.net/publication/364197629_Introduction_to_IEC_Standards (дата звернення: 01.05.2026).
8. Karadzhov V. How to Create the Best SWOT Analysis. International Journal of Research and Review. 2025. Vol. 12, No. 1. P. 66. DOI: https://doi.org/10.52403/ijrr.20250110
9. Fischer M., Imgrund F., Janiesch C., Winkelmann A. Strategy archetypes for digital transformation: Defining meta objectives using business process management. Information & Management. 2020. Vol. 57, No. 5. Art. 103262.
10. Pushpamali N., Agdas D., Rose T. M., Yigitcanlar T. Stakeholder perception of reverse logistics practices on supply chain performance. Business Strategy and the Environment. 2021. Vol. 30, No. 1. P. 60–70.
11. Official website of Microsoft Dynamics 365. URL: https://www.microsoft.com/en-us/dynamics-365/what-is-dynamics-365 (дата звернення: 01.05.2026).

e-ISSN: 2786-586X

12. Perdana A., Mulyono N. B. Purchasing strategies in the Kraljic portfolio matrix: a case study in open pit coal mining. Indonesian Mining Professionals Journal. 2021. Vol. 3, No. 1. P. 14. DOI: https://doi.org/10.36986/impj.v3i1.41

13. Zerbino P., Stefanini A., Aloini D. Process science in action: A literature review on process mining in business management. Technological Forecasting and Social Change. 2021. Vol. 172. Art. 121021.

14. Puspita D. P., Nurasa H., Pancasilawan R. Organizational Transformation at the Government Procurement Bureau of Goods and Services in Banten Province. Jurnal Manajemen Pelayanan Publik. 2023. Vol. 7, No. 1. P. 97–111. URL: https://doi.org/10.24198/jmpp.v7i1.47876 (дата звернення: 01.05.2026).

15. Waqar A., Othman I., Shafiq N. The role of sustainable procurement in attaining sustainable development goals: Insights from sustainable logistics and sustainable metamorphosis practices. Journal of Cleaner Production. 2025. Vol. 500. DOI: https://doi.org/10.1016/j.jclepro.2025.145285

References

1. Isaienko, A. A. (2025). Suchasni pidkhody do orhanizatsii postachannia materialnykh resursiv na pidpryiemstvakh transportnoi lohistyky [Modern approaches to the organization of material resources supply at transport logistics enterprises]. In Konkurentospromozhnist ta innovatsii: problemy nauky ta praktyky [Competitiveness and innovations: problems of science and practice]: Proceedings of the XX International Scientific and Practical Internet Conference (Kharkiv, November 21, 2025) (pp. 209–212). FOP Liburkina L. M. https://repository.hneu.edu.ua/handle/123456789/38491

2. Kuznyak, B., Valyavsky, S. and Reznik, A. (2021), “Formation of effective relationships with suppliers in the procurement activity of the enterprise”, Efektyvna ekonomika, [Online], vol. 12, available at: http://www.economy.nayka.com.ua/?op=1&z=9719 (Accessed 01 May 2026). DOI: 10.32702/2307-2105-2021.12.7

3. Melnykova, K. V., & Diakiv, A. B. (2023). Osoblyvosti zakupivelnoi diialnosti v mikrolohistychnykh systemakh [Features of purchasing activities in micrologistics systems]. In Konkurentospromozhnist ta innovatsii: problemy nauky ta praktyky [Competitiveness and innovations: problems of science and practice]: Proceedings of the XVII International Scientific and Practical Internet Conference (Kharkiv, November 24, 2023) (pp. 504–507). FOP Liburkina L. M. https://repository.hneu.edu.ua/handle/123456789/30942

4. Melnykova, K. V., & Zhernovoi, A. S. (2025). Udoskonalennia zakupivelnoi diialnosti pidpryiemstva z vykorystanniam suchasnykh informatsiinykh tekhnolohii u voiennyi period [Improving procurement activities of the enterprise using modern information technologies in the war period]. In Konkurentospromozhnist ta innovatsii: problemy nauky ta praktyky [Competitiveness and innovations: problems of science and practice]: Proceedings of the XVII International Scientific and Practical Internet Conference (Kharkiv, November 21, 2025) (pp. 309–314). FOP Liburkina L. M. https://repository.hneu.edu.ua/handle/123456789/38282

5. Yastremska, O. M., & Akinshyna, Yu. S. (2022). Osoblyvosti orhanizatsii zakupivelnoi lohistyky na pidpryiemstvi [Features of the organization of purchasing logistics at the enterprise]. In Konkurentospromozhnist ta innovatsii: problemy nauky ta praktyky [Competitiveness and innovations: problems of science and practice]: Proceedings of the XVII International Scientific and Practical Internet Conference (Kharkiv, November 25, 2022) (pp. 725–728). FOP Liburkina L. M. https://repository.hneu.edu.ua/handle/123456789/30581

6. Ceko, E. (2023). On the relationship between ISO standards and sustainable development. Problems of Sustainable Development, 18(2), 148–158. https://doi.org/10.35784/preko.3953

e-ISSN: 2786-586X

7. Hanif, M. (2022). Introduction to IEC standards. International Electrotechnical Commission. https://www.researchgate.net/publication/364197629_Introduction_to_IEC_Standards

8. Karadzhov, V. (2025). How to create the best SWOT analysis. International Journal of Research and Review, 12(1), 66. https://doi.org/10.52403/ijrr.20250110

9. Fischer, M., Imgrund, F., Janiesch, C., & Winkelmann, A. (2020). Strategy archetypes for digital transformation: Defining meta objectives using business process management. Information & Management, 57(5), Article 103262. https://doi.org/10.1016/j.im.2019.103262

10. Pushpamali, N., Agdas, D., Rose, T. M., & Yigitcanlar, T. (2021). Stakeholder perception of reverse logistics practices on supply chain performance. Business Strategy and the Environment, 30(1), 60–70. https://doi.org/10.1002/bse.2609

11. Microsoft. (n.d.). Official website of Microsoft Dynamics 365. Retrieved May 1, 2026, from https://www.microsoft.com/en-us/dynamics-365/what-is-dynamics-365

12. Perdana, A., & Mulyono, N. B. (2021). Purchasing strategies in the Kraljic portfolio matrix: A case study in open pit coal mining. Indonesian Mining Professionals Journal, 3(1), 14. https://doi.org/10.36986/impj.v3i1.41

13. Zerbino, P., Stefanini, A., & Aloini, D. (2021). Process science in action: A literature review on process mining in business management. Technological Forecasting and Social Change, 172, Article 121021. https://doi.org/10.1016/j.techfore.2021.121021

14. Puspita, D. P., Nurasa, H., & Pancasilawan, R. (2023). Organizational transformation at the Government Procurement Bureau of Goods and Services in Banten Province. Jurnal Manajemen Pelayanan Publik, 7(1), 97–111. https://doi.org/10.24198/jmpp.v7i1.47876

15. Waqar, A., Othman, I., & Shafiq, N. (2025). The role of sustainable procurement in attaining sustainable development goals: Insights from sustainable logistics and sustainable metamorphosis practices. Journal of Cleaner Production, 500, Article 145285. https://doi.org/10.1016/j.jclepro.2025.145285

e-ISSN: 2786-586X