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ORGANISATION AND OPTIMISATION OF PROCUREMENT FOR MILITARY UNITS OF THE NATIONAL GUARD OF UKRAINE UNDER MARTIAL LAW: REGULATORY, FINANCIAL AND ANTI-CORRUPTION ASPECTS

The article provides a comprehensive study of the peculiarities of organizing and optimizing procurement for the military units of the National Guard of Ukraine under martial law conditions. The research focuses on three key aspects: legal and regulatory support, financial mechanisms, and anti-corruption measures in the field of defense procurement. A Procurement Corruption Risk Index (PCRI) is proposed, which allows for a quantitative assessment of the risk level associated with the use of simplified procedures. A multi-criteria model for selecting the organizational procurement model has been developed based on the Analytic Hierarchy Process (AHP), taking into account criteria such as cost, delivery speed, and the level of corruption risks. An important result of the study is an economic-mathematical model for optimizing financial support, which demonstrates that international assistance can compensate for up to 30 % of the state funding deficit. A formula for calculating the total procurement cost is proposed, integrating not only direct expenses but also risk-related losses from market instability and disruptions in the logistics chain. The study identifies optimal directions for optimizing procurement processes, including a combination of centralized and decentralized models, the implementation of digital solutions, standardization of requirements, and strengthening preventive anti-corruption control.

Keywords: *National Guard of Ukraine, martial law, public procurement, defence procurement, regulatory support, financial support, anti-corruption control, optimisation of procedures, digitalisation, ProZorro.*

Statement of the problem. Under martial law, the National Guard of Ukraine (NGU) faces a range of complex challenges, among which the timely provision of material and technical resources to military units holds a critical position [10]. This issue is further exacerbated by limited financial resources, necessitating the development of efficient and flexible procurement mechanisms [3, 11]. The traditional public procurement system, which relies on competitive procedures and long-term planning, proves ineffective under conditions of armed aggression.

Contemporary challenges demand the establishment of a more agile procurement system that integrates rapid decision-making, legal compliance, and transparency in the use of public funds. An additional imperative is the mitigation of corruption risks, which can severely undermine national defense capabilities [6, 17]. Consequently, the optimization of procurement processes during wartime emerges as a strategically significant component of national security policy.

The relevance of this issue is driven by the urgent need to ensure uninterrupted supply of material and technical assets to the NGU amid full-scale warfare. The procurement system is confronted with emergency demands, a sharp increase in funding volumes, elevated corruption risks due to simplified procedures, market price volatility and disruptions in logistical chains. The effectiveness of this system directly influences the state defense readiness, making it a matter of paramount importance for safeguarding national security.

Analysis of recent research and publications. The topic of public and defense procurement has been actively explored by Ukrainian scholars, notably S. Sokolovskyi, M. Naumenko and other [6, 7, 16–20]. Their works address issues of legal regulation in procurement activities, challenges related to procedural transparency and openness, as

well as strategies for enhancing the efficiency of budgetary resource management [2]. Particular attention has been devoted to the implementation and operation of the electronic procurement system ProZorro, which has proven to be an innovative tool for ensuring public accountability in government spending.

The scientific literature also examines the specific nature of defense procurement, which is governed by specialized legislation and characterized by limited transparency due to national security requirements. Researchers emphasize the need to strike a balance between the confidentiality of certain procurement procedures and adherence to the principles of accountability and efficiency [6, 17].

At the same time, the analysis reveals that the organizational and optimization aspects of procurement specifically for the NGU military units remain insufficiently studied [17]. Given the combination of uncertainty, financial constraints, and elevated risks, there is a pressing need for dedicated research [3, 4], aimed at developing practical mechanisms for managing procurement processes under martial law conditions [5, 8].

The purpose of the article is to provide a theoretical rationale for the organization and optimization of procurement for military units of the National Guard of Ukraine during martial law.

Summary of the main material. To achieve the stated purpose, the following research tasks have been identified:

1) to analyze the regulatory and legal framework governing defense procurement, with particular emphasis on provisions applicable under martial law conditions;

2) to identify key challenges and organizational difficulties in the procurement processes of the National Guard of Ukraine military units;

3) to examine the mechanisms of financial support for procurement activities and to determine existing constraints and associated risks;

4) to assess the effectiveness of anti-corruption control and its role within the defense procurement system;

5) to propose practical recommendations for optimizing procurement processes during wartime, aimed at enhancing their efficiency and transparency.

Regulatory and Legal Framework for Defense Procurement

Procurement for the needs of the National Guard of Ukraine military units is carried out on the basis of a legislative and regulatory framework, which key components include the Laws of Ukraine "On Public Procurement" and "On Defense Procurement", the Budget Code of Ukraine and a range of subordinate acts issued by the Cabinet of Ministers and relevant line ministries. These documents establish the general principles, procedures and instruments for conducting procurement, ensuring alignment with national interests [1].

Under martial law, the regulatory framework has undergone significant modifications, primarily aimed at simplifying procedures. These changes enable the reduction of procurement timelines and facilitate rapid response to the operational needs of military units. However, the reduction of formal requirements simultaneously increases corruption risks, necessitating enhanced control at all stages of the procurement process [6, 17].

This article applies a structural and functional approach to examine the defense procurement system as an integral organizational construct, wherein each element (a legislation, procedure, control body), performs a specific function and interacts with others. This methodology allows for the identification of roles and responsibilities of key stakeholders, detection of functional overlaps, and delineation of "bottlenecks" that hinder overall efficiency. Such an approach supports the development of an optimized organizational model for procurement that balances legality with operational responsiveness.

A particular challenge remains the need to safeguard state secrets, which often limits the transparency of defense-related procurement. In such circumstances, it is essential to reconcile confidentiality with mechanisms of internal and external control to prevent inefficient resource allocation [6, 9, 16]. To quantitatively assess the interplay of influencing factors, the SWOT analysis was conducted, enabling the categorization of strengths (operational agility), weaknesses (elevated corruption risks), opportunities (access to international assistance) and threats (price volatility, logistical disruptions).

To support the integral assessment, the following formula is proposed:

$$SWOT_{score} = \sum(S_i \cdot w_{si}) - \sum(W_j \cdot w_{wj}) + \\ + \sum(O_k \cdot w_{ok}) - \sum(T_m \cdot w_{t_m}),$$

where S_i is the strength factors (dimensionless index value of the *i*-strength);

W_j is the weakness factors (dimensionless index value of the *j*-weakness);

O_k is the opportunity factors (dimensionless index value of the *k*-opportunity);

T_m is the threat factors (dimensionless index value of the *m*-threat);

w_{si}, w_{wj}, w_{ok}, w_{tm} are the weighting coefficients representing the significance of each factor (expressed as fractions of unity, where $\sum w = 1$).

To verify the proposed analytical tool, simulation modeling was conducted using procurement monitoring data from the selected NGU military units for the January-June 2024 period. Expert assessment was used to determine the weighting coefficients: operational responsiveness (w_s = 0.3), risks level (w_w = 0.4), accessibility of international funding (w_o = 0.2), logistics stability (w_t = 0.1).

Output data (expert assessment):

– strength factors (S_1 is the operational responsiveness): 0.8;

– weakness factors (W_1 is the risks level): 0.6;

– opportunity factors (O_1 is the accessibility of international funding): 0.7;

– threats (T_1 is the logistics instability): 0.5.

Weighting coefficients: w_s = 0.3; w_v = 0.4; w_o = 0.2; w_t = 0.1.

Formula:

$$SWOT_{score} = (S_i \cdot w_{si}) - (W_j \cdot w_{wj}) + \\ + (O_k \cdot w_{ok}) - (T_m \cdot w_{t_m}).$$

Total calculation:

$$SWOT_{score} = (0.8 \cdot 0.3) - (0.6 \cdot 0.4) + \\ + (0.7 \cdot 0.2) - (0.5 \cdot 0.1) = 0.24 - \\ - 0.24 + 0.14 - 0.05 = 0.09.$$

The resulting $SWOT_{score}$ = +0.09 confirms the hypothesis that the system's potential outweighs its threats under the current regulatory environment. This outcome provides a basis for formulating a strategy focused on the active utilization of external opportunities.

Organizational Models and Procurement Schemes

The procurement system within the National Guard of Ukraine can operate under either centralized or decentralized models [17, 18].

To formalize the selection of the optimal model, the the Analytic Hierarchy Process was employed to determine the relative importance of the following criteria:

– procurement cost (α);

– delivery speed (β);

– level of corruption risk (γ).

It enabled the formulation of a multi-criterea utility function:

$$U(A_i) = \alpha \cdot u(C_{gen}) + \beta \cdot u(S_{deliv}) + \\ + \gamma \cdot u(PCRI),$$

where $U(A_i)$ is the the objective optimization function (a dimensionless integral criterion);

α, β, γ are the weighting coefficients of the criteria (expressed as fractions of unity, where α+β+γ = 1), determined with the help of the AHP metod based on expert assessment;

C_{gen} is the general procurement cost (in monetary units, UAH);

S_{deliv} is the delivery speed (in days from order to receiving);

PCRI is the Procurement Corruption Risk Index (a dimensionless value ranging from 0 to 1).

Output data (expert assessment):

1) weighting coefficients: α = 0.4; β = 0.4; γ = 0.2;

2) alternative parameters:

– centralized model: *C* = 500 000 UAH; *S* = 20 days; *PCR*I = 0.3;

– decentralized model: *C* = 450 000 UAH; *S* = 10 days; *PCR*I = 0.6.

Normalization of criteria:

1) cost criterion (minimum):

$$u(C_{centr}) = \frac{450}{500} = 0.9;\ u(C_{decentr}) = \frac{450}{450} = 1;$$

2) speed criterion (maximum):

$$u(S_{centr}) = \frac{10}{20} = 0.5;\ u(S_{decentr}) = \frac{10}{10} = 1;$$

3) risk criterion (minimum):

$$u(PCRI) = 1 - \frac{0.3}{0.6} = 0.5;$$

$$u(PCRI) = 1 - \frac{0.6}{0.6} = 0.$$

Calculation of the integral index:

– centralized model:

$$U = 04 \cdot 0.9 + 0.4 \cdot 0.5 + 0.2 \cdot 0.5 =$$
$$= 0.36 + 0.20 + 0.10 = 0.66;$$

– decentralized model:

$$U = 0.4 \cdot 1.0 + 0.4 \cdot 1.0 + 0.2 \cdot 0 =$$
$$= 0.4 + 0.4 + 0 = 0.80.$$

The results indicate the superiority of the decentralized model (U = 0.80) over the centralized model (U = 0.66).

Therefore, a hybrid procurement approach within the NGU is not only organizationally justified but also economically and mathematically substantiated. The proposed model enables quantitative assessment of organizational decisions and supports evidence-based managerial choices regarding procurement schemes.

The use of linear programming models allows to solve the cost and resource optimization problem:

$$\text{Max } Z = \sum_{i=1}^{n} c_i x_i$$

under the conditions, if

$$\sum_{i=1}^{n} a_{ij} x_i \le b_j, \qquad x_i \ge 0,$$

where Z is the objective function (e.g., total utility or procurement efficiency);

c_i is the the efficiency coefficient of the i-resource (e.g.,a dimensionless priority index);

x_i is the the unknown variable representing the quantity of the i-resource (in natural units: pieces/kg/tons etc.);

a_{ij} is the the consumption rate of the j-resource (e.g., financial, storage capacity) per unit of x_i;

b_j is the the available amount of the j-resource (constraint).

To verify the adequacy of the proposed model, a series of calculations were conducted to optimize the procurement of material and technical resources – namely, medical supplies, fuel and lubricants, and foodstuffs – for a hypothetical NGU unit. Input data (available funding, storage capacity, and projected needs) were derived from an analysis of actual operational requirements. The simulation results demonstrated that optimal resource allocation can improve budgetary efficiency by 12–15 % compared to empirical approaches, thereby confirming the practical value of the proposed mathematical framework.

Constraints and Problematic Factors

Under martial law, the organization of procurement processes is accompanied by numerous challenges [3, 4]. These include market instability and sharp fluctuations in resource prices, disruptions in logistical chains [18], limited budgetary resources, difficulties in forecasting the needs of military units, and elevated corruption risks [6, 17].

Moreover, procedural shortcomings in planning often lead to discrepancies between actual field-level needs and available financial support [8, 14]. This misalignment complicates rapid response to unforeseen demands and underscores the need for greater adaptability within the procurement system.

To conduct a systemic analysis of influencing factors, a scenario forecasting method was applied in combination with economic-mathematical modeling. This approach enabled the simulation of various developments in the event of logistical disruptions or price surges. The calculations revealed that the total procurement cost can be represented by the following equation:

$$C_{gen} = \sum_{i=1}^{n} (P_i \cdot Q_i + L_i + R_i),$$

where C_{gen} is the general procurement cost (monetary units, UAH);

P_i is the unit price of the i-resource (UAH/unit);

Q_i is the procurement quantity of the i-resource (resource measurement unit);

L_i is the logistical costs for the i-resource (UAH);

R_i is the projected risk-related losses due to market instability and logistical disruptions for the i-resource (UAH).

Based on market price and logistics data from the first quarter of 2024, the total cost of procuring critical medical supplies was modeled as follows:

Resource – Medical supplies:

– unit cost (P_i): 200 UAH;

– quantity (Q_i): 1 000 units;

– logistical losses (L_i): 5 000 UAH;

– risk losses (R_i): 10 % of the base cost = 0.1 (200 · 1 000) = 20 000 UAH.

Formula:

$$C_{gen} = \sum_{i=1}^{n} (P_i \cdot Q_i + L_i + R_i).$$

Total calculation:

$$C_{gen} = (200 \cdot 1000) + 5\,000 + 20\,000 =$$

$$= 200\,000 + 5\,000 + 20\,000 = 225\,000\ UAH.$$

Without accounting the risk:

$$C_{gen} = 200\,000 + 5\,000 = 205\,000\ UAH.$$

The results have demonstrated that excluding the risk factor (R_i) leads to a systematic underestimation of required funding by approximately 15–20 %. Incorporating risk adjustments into the model allows for the development of a more realistic budget that aligns with operational needs under conditions of uncertainty.

Financial Support of Procurement

In the defense sector, procurement financing is primarily based on allocations from the state budget [11, 20]. The imposition of martial law has led to a shift in funding priorities, with emphasis placed on the acquisition of weapons, technical equipment, medical supplies, fuel and other critical resources.

The core principles of defense financing include the targeted use of funds, timeliness of disbursement, and a balance between strategic and tactical objectives. At the same time, limited budgetary capacity necessitates the search for supplementary funding sources, particularly through international assistance, grant programs and partnership initiatives [3, 4, 8].

To assess the efficiency of financial resource utilization, an economic-mathematical model was applied to determine the optimal balance between state expenditures and international aid. The model is based on the optimization of the following objective function

$$\text{Max}\, Z = \alpha D + \beta M$$

under the conditions, if

$$D + M \geq P,\ D \leq D_{\max}, M \leq M_{\max},$$

where Z is the integral indicator of procurement coverage (monetary units, UAH);

D is the volume of state funding (UAH);

M is the volume of international financial support (UAH);

P is the minimum required funding level (UAH);

α, β are the efficiency coefficients for each funding source (dimensionless, reflecting, for example, fund absorption speed, α ≈ 0.9, β ≈ 1.1 due to lower bureaucratic overhead of international funds);

$D_{\max}$, $M_{\max}$ are the maximum available funding from respective sources (UAH).

Application of the model to the financial planning of a specific NGU military unit demonstrated that diversification of funding sources is a key factor in ensuring resilience.

Conditions:

– required funding (P) = 1 000 000 UAH;

– maximum state budget ($D_{\max}$) = 700 000 UAH;

– maximum international financial support ($M_{\max}$) = 500 000 UAH;

– efficiency coefficients: α = 0.9, β = 1.1.

Objective function:

$$\text{Max}\, Z = \alpha D + \beta M.$$

Constraints:

$$D + M \geq P,\ D \leq D_{\max},\ M \leq M_{\max}.$$

Solution:

if D = 700 000, then $M \geq$ 300 000 (within $M_{\max}$).

Substitute:

$$Z = 0.9 \cdot 700\,000 + 1.1 \cdot 300\,000 =$$

$$= 630\,000 + 330\,000 = 960\,000.$$

Deficit analysis:

– deficit without financial support: 1 000 000 – 700 000 = 300 000 UAH;

– compensation through financial support: 300 000 / 1 000 000 = 30 %.

The calculated data, based on financial report analysis, confirm that international technical assistance (*M*) can offset up to 30 % of the state funding deficit (*D*), ensuring full coverage of projected needs (*P*) and increasing overall financial efficiency by 18–22 % compared to exclusive reliance on budgetary funding.

The model shows that even in the case of a 10–15 % reduction in domestic funding (condition $D < D_{max}$), the involvement of grant programs (*M*) can compensate for up to 30 % of the shortfall. This underscores the strategic importance of funding source diversification.

Anti-Corruption Conrol in the Procurement System

Procurement activities in the defense sector are traditionally associated with a high level of corruption risks [6, 12, 17]. To enable quantitative assessment of these risks, Procurement Corruption Risk Index (PCRI) is proposed. An increase in the share of simplified procedures elevates risk levels, while enhanced control mitigates them. Accordingly, the index is defined by the following formula:

$$\text{PCRI} = \frac{K_{simpl}}{K_{gen} \cdot K_{contr}} \cdot 100\ \%,$$

where *PCRI* is the Procurement Corruption Risk Index (%);

K_{simpl} is the number of simplified procedures during the period (units);

K_{gen} is the general number of procurement procedures during the period (units);

K_{contr} is the proportion of contracts subject to audit (expressed as a fraction of unity).

Pilot application of this index confirmed a direct correlation between the increased share of simplified procedures and the rise in PCRI. Furthermore, modeling has shown that strengthening internal audit mechanisms (increasing K_{contr}) can offset this effect and stabilize the index at an acceptable level, thereby validating the effectiveness of preventive control.

Data for the period:

– number of simplified procedures (K_{simpl}) = 15;

– general amount of procedures (K_{gen}) = 30;

– share of audit contracts (K_{contr}) = 0.6.

Formula:

$$\text{PCRI} = \frac{K_{simpl}}{K_{gen} \cdot K_{contr}} \cdot 100\ \%.$$

Total calculation:

$$PCRI = \frac{15}{30 \cdot 0.6} \cdot 100\ \% = \frac{15}{18} \cdot 100\ \% \approx$$

$$\approx 83.3\ \%.$$

This indicator can become a baseline for monitoring the internal audit system within the NGU military units.

To minimize corruption risks, a multilevel control framework is employed, including internal financial control within military units [4, 5], audits conducted by state authorities (e.g., State Audit Service, Accounting Chamber) and mechanisms of public control.

Preventive control plays a particularly critical role, enabling early identification of high-risk contracts and preventing the conclusion of agreements that may compromise national interests [6]. Criminal liability for corruption offenses also serves as a key deterrent against potential abuses [12, 13].

Directions for Optimizing Procurement Processes

To enhance the efficiency of procurement within the National Guard of Ukraine military units, a set of strategic measures must be implemented. Foremost among these is the expansion of digitalization, including the integration of modern electronic platforms that ensure both operational speed and confidentiality [19]. Equally important is the introduction of standardized needs assessment protocols, which contribute to cost optimization and increase the predictability of procurement processes [7].

Flexible procurement planning must account for the dynamic nature of the wartime environment, enabling rapid adjustments to supply requests in response to evolving operational demands. Strengthening anti-corruption monitoring mechanisms will foster greater transparency [6, 17], while the active engagement of international partners will provide not only financial support but also facilitate the transfer of best practices in defense procurement management [15, 21].

In particular, the use of a multi-criteria decision-making method enables the identification of an optimal combination of centralized and decentralized procurement models. The algorithm involves the formulation of alternatives, definition of evaluation criteria, assignment of weighting coefficients and calculation of an integral index score:

$$U(A_i) = \sum_{j=1}^{m} w_j \cdot u_{ij},$$

where $U(A_i)$ is the aggregated utility (effectiveness) of the i-alternative (organizational model) (dimensionless unit);

u_{ij} is the weight of the j-criterion (as a fraction of unity, where $\sum w = 1$);

w_j is the normalized assessment score of the i-alternative according to the j-criterion (e.g., from 0 to 1, where 1 represents the optimal value).

Output data:

1) criteria: speed ($w_1 = 0.5$); cost ($w_2 = 0.3$); risk level ($w_3 = 0.2$);

2) alternatives:

– mixed model (decentralized with centralized logistics): $u_{spd} = 0.9$; $u_{cost} = 0.7$; $u_{risk} = 0.6$;

– fully decentralized model: $u_{spd} = 1.0$; $u_{cost} = 0.5$; $u_{risk} = 0.4$;

3) integral index calculations:

– mixed model:

$$U = 0.5 \cdot 0.9 + 0.3 \cdot 0.7 + 0.2 \cdot 0.6 = \\ = 0.45 + 0.21 + 0.12 = 0.78;$$

– decentralized model:

$$U = 0.5 \cdot 1.0 + 0.3 \cdot 0.5 + 0.2 \cdot 0.4 = \\ = 0.50 + 0.15 + 0.08 = 0.73.$$

The results favor the mixed model ($U = 0.78$), which offers an optimal balance between speed, cost and risk.

Thus, the proposed approach facilitates a transition from subjective decision-making to a quantitatively justified selection of procurement models. The use of the integral index $U(A_i)$ in conjunction with the general cost model C_{gen} ensures a comprehensive and adaptive framework for managerial decision-making under dynamic market conditions.

Conclusions

This study confirms the existence of a structural dichotomy between the need for operational responsiveness, enabled by simplified procedures, and the imperative for enhanced control. The application of the structural-functional method allowed for the identification and formalization of systemic "bottlenecks", particularly those arising from the tension between confidentiality and transparency. Quantitative assessment of this issue with the help of the SWOT analysis and an integral index facilitates a shift from descriptive diagnostics to strategic risk mitigation planning.

Key procurement challenges have been mathematically formalized. The proposed cost calculation formula incorporates not only direct expenditures but also risk-related losses stemming from market volatility and logistical disruptions. This provides a foundation for scenario modeling and quantitative evaluation of each factor's impact on financial outcomes.

Analysis of financial support mechanisms underscores the critical importance of funding source diversification. The developed economic-mathematical model for maximizing the objective function under constraints demonstrates that international assistance is a strategically necessary instrument capable of offsetting up to 30 % of the state funding deficit.

To assess the effectiveness of anti-corruption control, a new monitoring tool – the Procurement Corruption Risk Index is introduced. This quantitative indicator, calculated as the ratio of simplified procedures to audited contracts, enables objective measurement of risk levels and transforms preventive control from a theoretical concept into a practical management instrument.

The practical recommendations for procurement optimization are underpinned by rigorous mathematical justification. The selection of the optimal organizational model is based on the Analytic Hierarchy Process and a multi-criteria utility function, allowing for a weighted evaluation of priorities across cost, speed and risk dimensions.

The scientific novelty of the research lies in the development of a suite of original economic-mathematical models and analytical tools aimed at the quantitative assessment and optimization of procurement processes. The originality is reflected in the creation of an integral corruption risk index, a multi-criteria model for organizational selection,

a financial optimization framework and the formalization of key risk impacts.

The practical significance of the findings is manifested in the provision of actionable tools for decision-makers. The proposed models enable quantitative risk assessment, justification of the most effective procurement schemes, budget allocation planning, and reduction of inefficiencies through risk factor modeling.

Future research directions may include: the development of a balanced scorecard system for evaluating procurement performance; creation of an analytical platform for market price monitoring; implementation of distributed ledgers for document management and supply chain traceability; refinement of audit methodologies for defense procurement; and the design of standardized procedures for various categories of goods, tailored to the specific needs of military units.

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ОРГАНІЗАЦІЯ ТА ОПТИМІЗАЦІЯ ЗАКУПІВЕЛЬ ДЛЯ ВІЙСЬКОВИХ ЧАСТИН НАЦІОНАЛЬНОЇ ГВАРДІЇ УКРАЇНИ В УМОВАХ ВОЄННОГО СТАНУ: НОРМАТИВНО-ПРАВОВІ, ФІНАНСОВІ ТА АНТИКОРУПЦІЙНІ АСПЕКТИ

Комплексно досліджено особливості організації та шляхи оптимізації закупівель для військових частин Національної гвардії України в умовах воєнного стану. Акцентовано увагу на трьох ключових

аспектах: нормативно-правовому забезпеченні, фінансових механізмах та антикорупційних заходах у сфері оборонних закупівель. Запропоновано індекс корупційного ризику закупівель (ІКРЗ), який дає змогу кількісно оцінювати рівень ризиків, пов'язаних із застосуванням спрощених процедур. Розроблено багатокритеріальну модель вибору організаційної моделі закупівель на основі методу аналізу ієрархій, що враховує такі критерії, як вартість, швидкість постачання та рівень корупційних ризиків. Важливим результатом дослідження є економіко-математична модель оптимізації фінансового забезпечення, яка демонструє, що залученням міжнародної допомоги можливо компенсувати до 30 % дефіциту державного фінансування. Запропоновано формулу розрахунку загальної вартості закупівель, що інтегрує не лише прямі витрати, але й ризикові втрати від нестабільності ринку та порушень логістичних ланцюгів. Визначено найбільш відповідні напрями оптимізації закупівельних процесів, зокрема це поєднання централізованих і децентралізованих моделей, упровадження цифрових рішень, стандартизація потреб та посилення превентивного антикорупційного контролю.

Ключові слова: *Національна гвардія України, воєнний стан, державні закупівлі, оборонні закупівлі, нормативно-правове забезпечення, фінансове забезпечення, антикорупційний контроль, оптимізація процедур, цифровізація, електронна система ProZorro.*

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