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D. Datchuk **O. Bondarenko** **I. Luhovskyi**

THEORETICAL AND METHODOLOGICAL APPROACH TO ASSESSING THE INTELLIGENCE SUPPORT CAPABILITY OF THE NATIONAL GUARD OF UKRAINE FORMATIONS IN ENSURING STATE SECURITY

The article analyzes modern technological solutions that can be integrated into the activities of the National Guard of Ukraine. To further conduct the research and determine relevant indicators and criteria, hypotheses have been formulated regarding the enhancement of the effectiveness of intelligence support for the formations of the National Guard of Ukraine during state security operations through the implementation of advanced assessment methodologies.

Keywords: *intelligence support, intelligence activity, artificial intelligence, capability assessment.*

Statement of the problem. Under current threats to state security and the growing scale of informational and cyber conflicts, the effectiveness of intelligence support (IS) has become one of the key conditions for ensuring national stability and protecting the sovereignty of Ukraine. The formations of the National Guard of Ukraine (NGU), as an integral part of the national security and defense system, perform important functions related to intelligence activity (IA) in both combat and peacetime operations. The problem of assessing IS capability is significant for both the scientific understanding of intelligence methods and the optimization of their practical application.

The intelligence activity of the NGU faces challenges such as rapidly changing combat environments, limited resources, and the necessity to integrate modern technologies. Currently, there is no clear algorithm for capability assessment, which directly affects the ability to respond swiftly to changes in the operational environment and emerging threats. The relevance of this topic is defined by the need to develop unified criteria and an assessment method that directly account for the specific nature of the NGU's operations.

Therefore, the study of this issue is of great theoretical and practical importance for the development of the IS system and the improvement of state security mechanisms.

Analysis of recent research and publications. Research in the field of military intelligence places significant emphasis on innovative approaches to the analysis of intelligence data, including the use of artificial intelligence (AI), big data, and geographic information systems. In recent years, a number of studies have been conducted aimed at developing methods for assessing intelligence activity (IA).

The authors of [1] substantiated the possibility of using queuing theory methods to assess the efficiency and to develop a methodology for evaluating the responsiveness of artillery reconnaissance systems.

Based on the analysis of the russian-ukrainian war experience, article [2] presents recommendations for systematizing the factors influencing the effectiveness of intelligence support (IS) for operational troop groupings in operations, and proposes approaches to obtaining intelligence information (II) from open sources in support of IS during such operations.

In article [3], the necessity of establishing intelligence units within military command bodies and National Guard of Ukraine military units is substantiated. These units, within the powers defined by law, carry out activities to support the IS of NGU operations, and the article outlines ways to address regulatory inconsistencies regarding such activities.

The need for training specialists in intelligence support for NGU unit operations is substantiated by the authors of [4].

Article [5] highlights the importance of introducing innovations into intelligence support and training highly qualified specialists to work in Earth observation. It draws on the experience of real-time commercial space-based reconnaissance missions using high-frequency satellite imagery and AI-based analytics.

The authors of [6] concluded that ″Intelligence, Surveillance, and Reconnaissance (ISR) systems″ play a crucial role in providing global real-time monitoring capabilities, considering such factors as troop movements, missile launches, and environmental conditions.

Article [7] explores the impact of AI on modern armed conflicts, analyzing its role in changing military strategy and tactics, as well as the ethical, legal, and social challenges associated with AI use. The article emphasizes that AI enables military personnel to receive up-to-date information on enemy movements and assess battlefield situations in real time. An example is provided of Ukrainian forces using drones in reconnaissance operations. These drones are capable of collecting data on Russian troop positions and transmitting them to command centers for analysis using AI tools.

However, despite the considerable number of scientific studies, the issue of comprehensive assessment of the IS capability of NGU formations and the adaptation of global methodologies to the specific nature of NGU activities remains underdeveloped. In particular, there is no established approach to forming assessment indicators, the specifics of the NGU's multifunctional tasks are not fully considered, and the impact of innovative technologies on IA is underestimated.

In view of the above, **the purpose of the article** is to develop theoretical and methodological approaches to assessing the capability of intelligence support for the formations of the National Guard of Ukraine, which will allow for the optimization of intelligence activity in the field of state security.

To achieve this purpose, the following objectives have been set:

– to analyze modern technological solutions that can be integrated into the activities of the NGU;

– to formulate hypotheses regarding the enhancement of IS effectiveness through the implementation of advanced assessment methodologies.

Summary of the main material. Assessing the capability of the intelligence support (IS) of NGU formations is a complex task that requires consideration of both operational-tactical and technical aspects. The effectiveness of intelligence units largely depends on their ability to integrate modern technologies, tools, software, and analytical methods for rapid response to changes in the operational environment, weather conditions, terrain, and the moral-psychological state of personnel.

The main arguments supporting the hypothesis regarding the practical value of the proposed assessment method are as follows.

1. The assessment method will help identify the strengths and weaknesses of the current intelligence environment and assist in directing resources toward areas that require improvement.

2. Capability assessment will enable more rational use of resources by avoiding duplication of functions and prioritizing the deployment of intelligence units based on task urgency.

3. Evaluating the ability of intelligence units to provide commanders and staff with necessary information will support faster decision-making in crisis situations and during sudden changes in the operational environment.

4. Capability assessment will enhance preparedness for various threats, including hybrid threats, cyber threats, and other non-standard challenges. Its results may ensure that NGU formations are ready to respond to emerging technological and unconventional threats.

5. The assessment method will provide for continuous monitoring and improvement of intelligence capability, which is essential for the adaptability and effectiveness of NGU formations.

6. Systematic evaluation ensures transparency in decision-making regarding the assessed intelligence unit, as well as improves the quality and accountability in the preparation and execution of intelligence tasks.

Therefore, the method for assessing the IS capability of NGU formations is a necessary tool for improving their operations, strengthening national security, and ensuring effective response to sudden changes in the situation and current threats.

Modern technologies such as unmanned aerial vehicles (UAVs), satellite systems, and AI-based analytical platforms significantly enhance the

efficiency of information collection and processing. For example:

1. The use of UAVs significantly expands IS capabilities in hard-to-reach areas. UAVs are deployed to monitor territories in real time. AI-powered video processing technologies allow for automated object detection, reducing the workload and response time for analysts and other specialists.

2. The use of satellite systems enables the analysis of changes in combat zones and surrounding regions, with the ability to integrate such data with forecasting systems.

3. Threat prediction systems help prevent possible situational changes and offer recommendations for mitigation or response.

4. Automated processing of intelligence information based on big data allows for rapid forecasting of enemy actions and the formulation of recommendations for commanders based on all available data.

5. Analysis of big data from social media and other open sources makes it possible to directly monitor and forecast the socio-political situation and public sentiment in the area of operations and the region as a whole, which may influence the execution of state security tasks.

Table 1 illustrates the correlation between technologies and their impact on the requirements arising during the execution of IS tasks.

A hypothesis is proposed that the application of a comprehensive approach to capability assessment will contribute to increasing the effectiveness of intelligence support. The research logic involves creating a system of metrics that take into account the specifics of the National Guard of Ukraine′ tasks and the use of threat forecasting models.

To analyze the capability of the NGU formations′ intelligence support, a methodological approach is proposed, consisting of the following stages.

1. Data collection (using observation data during individual training, coordination within groups, squads, platoons, companies, battalions, and formations; utilization of completed task results and technological means).

2. Assessment according to the established and future indicators and criteria for the capability of the NGU formations′ intelligence support.

3. Modeling of potential threats that may arise based on historical data and AI system forecasts (building a situation close to reality to test the potential of the unit being assessed, as well as to prevent or minimize losses, which directly affects the performance of state security tasks). This includes the use of augmented reality (AR) and virtual reality (VR) software.

Table 1 – The Correlation between Technologies and Requirements for Intelligence Support

Technology Employed	Requirement						
	Reliability	Access to hard-to-reach areas (preservation of personnel)	Use of AI, automatic object detection	Mobility of the intelligence unit	Timely response to changes in the operational environment	Real-time monitoring	Data accuracy
Unmanned Aerial Vehicle (UAV)	x	x	x	x	x	x	x
Automated Processing of Intelligence Information (II)	x		x		x	x	x
Big Data Analysis		x	x		x	x	x
Forecasting System	x		x	x	x	x	x

4. Providing recommendations and controlling their implementation with mandatory reassessment after a certain period (at least six months).

After analyzing the execution of combat missions, commanders and many officers attempt to implement advanced (innovative) technologies and AI-based software systems in managing their units, but some still minimize this process. Table 2 presents a comparison between traditional (outdated) and modern (innovative) assessment methods.

Table 2 – Comparison of Traditional and Modern Assessment Methods

Assessment Method	Traditional	Modern
Data Collection	Manual Data Collection	Use of UAVs, Satellite Systems, and Computerized Data Management
Data Processing (Assessment)	Manual Analysis	Automated Systems for Data Analysis and Assessment
Modeling Potential Threats and Forecasting	Practical Action Rehearsal and Expert Evaluation	Based on processed data using big data and AR/VR technologies according to pre-developed scenarios
Recommendations and Monitoring	Expert and Command-Level Activities	Use of automated systems and expert conclusions. Monitoring based on subsequently provided data and verification through scenarios using AR/VR or UAVs and satellites

As practice shows, the use of modern technologies in the work of intelligence bodies, particularly during the direct execution of combat missions, accelerates the achievement of results and the implementation of corresponding measures, and is therefore crucial.

Based on the conducted analysis, the following hypotheses are proposed:

– the use of a multifactorial approach to assessing the capability of intelligence support (IS) of NGU formations makes it possible to increase their efficiency in performing national security tasks and to anticipate undesirable outcomes;

– the integration of modern technologies, such as data analysis automation and threat forecasting, enhances the accuracy of the provided information and the promptness of decision-making;

– the implementation of automated assessment systems helps reduce decision-making time;

– the integration of advanced technologies will improve the accuracy of intelligence information (II);

– intelligence methods applied by the NGU must be adapted to the specific nature of the tasks assigned to NGU formations;

– the use of modern technologies, including information and communication systems and automated platforms, enhances the efficiency of NGU intelligence bodies in real time and improves the accuracy of the received information;

– close coordination and information exchange between NGU intelligence bodies and other security and defense forces increase the effectiveness of national security and defense operations;

– changes in the foreign policy situation and geopolitical challenges require constant adaptation of the IS strategy, which involves updating plans, tactics, and methods to counter new threats to national security that the security and defense forces of Ukraine will generally face;

– high-quality personnel training, including specialized courses on intelligence, analysis, and the use of advanced technologies, forms the foundation for improving IS effectiveness in NGU formations during task execution and directly impacts the overall performance of IS;

– timely and properly analyzed information significantly affects the decision-making process and enables rapid response to situational changes;

– the use of joint teams comprising intelligence officers, analysts, technologists, and cybersecurity specialists increases IS efficiency through a comprehensive approach to information collection, analysis, and presentation;

– adverse weather conditions (fog, rain, snow) significantly reduce the effectiveness of NGU IS, as they limit visibility, reduce observation accuracy, and complicate the mobility of units, thereby slowing the collection and transmission of critical information;

– challenging terrain (mountains, forests, swamps, urban areas) complicates the movement of intelligence units, increases task completion time, and limits the use of technical intelligence means, which reduces the operational efficiency of II collection and raises risks for personnel;

– poor moral and psychological condition of personnel (e.g., due to stress, fatigue, or mission uncertainty) causes a decline in motivation to carry out intelligence tasks, leading to decreased attention to details critical for timely threat detection and operational decision-making.

The methodology developed in the course of this research can be integrated into training programs for intelligence bodies and used during exercises and combat operations. Its practical testing will allow the identification of key factors that contribute to the successful execution of intelligence tasks.

Conclusions

Innovative technologies and modern assessment methodologies significantly enhance the effectiveness of intelligence support for the formations of the National Guard of Ukraine. A comprehensive approach, based on clear indicators and adapted to contemporary challenges, contributes to the qualitative fulfillment of national security tasks.

The study of the issue of assessing the capability of intelligence support for NGU formations allows the formulation of the following statements:

1) the integration of modern technologies, including UAVs, satellite systems, artificial intelligence, and process automation, is a key condition for improving the intelligence support system;

2) the use of automated systems, when applying the proposed assessment methodology based on systems analysis, process automation, and threat modeling, is important not only in personnel training but also during the execution of combat missions.

Directions for further research will include:

– the development of indicators and criteria for assessing the capability of intelligence support for NGU formations, which consider responsiveness, accuracy, technology integration, adaptability, weather conditions, terrain, and the moral-psychological state – an important stage for increasing the effectiveness of intelligence support during national security tasks;

– adaptation of global best practices to the operational conditions of the NGU;

– improvement of assessment algorithms and integration of advanced technologies into intelligence practices;

– development of innovative assessment methods for intelligence bodies and creation of conditions for the use of augmented and virtual reality systems.

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Д. А. Датчук, О. Г. Бондаренко, І. С. Луговський

ТЕОРЕТИКО-МЕТОДОЛОГІЧНИЙ ПІДХІД ДО ОЦІНЮВАННЯ СПРОМОЖНОСТІ РОЗВІДУВАЛЬНОГО ЗАБЕЗПЕЧЕННЯ ФОРМУВАНЬ НАЦІОНАЛЬНОЇ ГВАРДІЇ УКРАЇНИ ПІД ЧАС ВИКОНАННЯ ЗАВДАНЬ ІЗ ЗАБЕЗПЕЧЕННЯ ДЕРЖАВНОЇ БЕЗПЕКИ

Розглянуто теоретико-методологічні аспекти оцінювання спроможності розвідувального забезпечення формувань Національної гвардії України під час виконання завдань із забезпечення державної безпеки. Обґрунтовано необхідність упровадження таких сучасних технологій, як безпілотні літальні апарати, супутникові системи, штучний інтелект, системи прогнозування загроз, аналітика великих даних, а також віртуальна та доповнена реальність для вдосконалювання розвідувальної діяльності.

Проаналізовано чинники, що впливають на ефективність розвідувального забезпечення, серед яких погодні умови, складність місцевості, морально-психологічний стан особового складу. Запропоновано гіпотези щодо підвищення ефективності розвідувального забезпечення шляхом комплексного оцінювання та інтеграції інновацій.

Обґрунтовано переваги сучасних методів оцінювання над традиційними, зокрема в аспектах швидкості аналізу, точності прогнозів та раціонального використання ресурсів. Сформовано методологічний підхід, що передбачає поетапне збирання й аналіз даних, моделювання загроз, надання рекомендацій та повторне оцінювання. Акцентовано на потребі в уніфікованих критеріях оцінювання, що враховують специфіку багатофункціональних завдань Національної гвардії України.

Результати дослідження можуть бути інтегровані у систему підготовки органів розвідки і використовуватися під час навчань і операцій, що сприятиме підвищенню рівня державної безпеки.

Ключові слова: *розвідувальне забезпечення, розвідувальна діяльність, штучний інтелект, оцінювання спроможності.*

Datchuk Denys – Adjunct, National Academy of the National Guard of Ukraine
https://orcid.org/0009-0006-6884-755X

Bondarenko Oleksandr – Doctor of Science (Public Administration), Associate Professor, Head of Operational Art Department, National Academy of the National Guard of Ukraine
https://orcid.org/0000-0003-1755-3333

Luhovskyi Ihor – Candidate of Military Sciences, Associate Professor, Associate Professor of the Department of Logistics Management, National Academy of the National Guard of Ukraine
https://orcid.org/0000-0001-5052-322X