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Intelligence cycle as the basis of analytical activity in combating drug-related crime

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Abstract
The relevance of the research topic is related to the fact that in order to effectively address the problem of drug crime, it is necessary to develop and implement strategies based on the best practices, supported by scientific research, that optimise the use of law enforcement resources and limit the harm caused by drug trafficking. The purpose of this paper is to study the latest trends in the use of the intelligence cycle in the fight against crime, to create and describe a model of its application in the field of combating drug-related crime. To achieve the purpose of the research, the following scientific methods were used: terminological, systemic and structural, analysis, comparative analysis, modelling, formal and logical, generalisation, and expert evaluation. It is proved that for the effective and efficient organisation of analytical activities in the field of combating drug-related crime, a thorough understanding of and strict adherence to the stages of the intelligence cycle, which underlies criminal analysis, is crucial. It is concluded that the intelligence cycle is a flexible dynamic process that requires analysts to think critically and creatively, to respond meaningfully to new information, and to move through the stages of the intelligence cycle. The intelligence cycle was analysed, the analyst's activities at each of the stages, specifically, during defining (setting) tasks and planning; collecting and evaluating data; generalising, systemising, and processing; analysing; preparing a report and submitting it to the customer; and receiving feedback, were highlighted. The findings of the study showed that the intelligence cycle is a universal tool that allows streamlining any activity related to information analysis, ensuring quality control and high-quality results of analytical work, specifically in the field of combating drug-related crime. The list of possible tasks of analytical work in the field of combating illicit trafficking in narcotic drugs, psychotropic substances, their analogues and precursors, and summarised potential sources of information necessary for analysis, were summarised. The results of this study will be useful for heads of units involved in combating drug-related crime, employees who, according to their functional responsibilities, iimplement criminal analysis in combating drug-related crime, and scholars who research these issues

Keywords:
criminal analysis; drugs; drug trafficking; analytical research; drug smuggling; data analysis

Introduction
From theoretical and practical standpoints, the significance of the subject under study is conditioned by the current state of drug addiction in society and the clear insufficiency of efforts to combat drug-related crime. International drug trafficking is a highly profitable criminal business that transcends geographical boundaries

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and is largely controlled by highly organised criminal groups that are flexible in their methods of operation, adaptable to countermeasures, and do not economise on technical equipment and corrupt connections. Drug trafficking poses a serious threat to the state, public health, security, law and order, public administration, and sustainable development. These challenges to global stability require an asymmetric response from law enforcement agencies, which may include the implementation of strategies based on the best practices and supported by research. In leading law enforcement agencies, well-organised analytical activities are a practice that increases the effectiveness of law enforcement, saves resources, and helps to develop sound strategies, tactical approaches, processes, and practices to effectively combat crime.

Ukrainian researchers have investigated certain aspects of the subject under study. I.A. Fedchak (2021) studied the characteristics of the stages of the intelligence cycle and concluded that this cycle is a dynamic process where different phases are closely intertwined and form a chain of actions or procedures leading to the most accurate and reasonable conclusion from the information available. S.M. Kniaziev (2018) researched the place of intelligence analytics in the updated model of organisation of operational units and proved that analytics, which is a process that involves planning and directing, collecting, evaluating, comparing, analysing, disseminating, and re-evaluating information, plays a critical role, as it is a reliable tool for detecting illegal activities. Among other things, its use makes it possible to put forward reasonable hypotheses in predicting potential criminal manifestations. Ya.V. Stupnyk *et al*. (2021) studied the criminological aspect of information and analytical support for drug crime. The researchers found that information support is a prerequisite for the effectiveness of any social system, including the system of combating drug-related crime. Yu.D. Bukovskyi (2023) researched the legal and organisational foundations of information and analytical activities of the units for combating drug-related crime of the National Police of Ukraine and concluded that information and analytical activities occupy a prominent place and constitute a set of organisational, legal, and technological means that ensure the intelligence cycle. Therewith, in the reviewed studies, the analytical cycle is described in general terms, which does not reveal its significance in ensuring high-quality information and analytical support for combating drug-related crime.

The studies of foreign researchers were also analysed. J. Belur & S. Johnson (2018) examined how criminal analysis has been integrated into UK police practice and concluded that criminal analysis is recognised as central to everyday policing. Therewith, a general lack of understanding among police officers as to how analysts operate leads to an underutilisation of their skills. C. Lewandowski *et al*. (2018) examined the usefulness of Fusion centres (centres designed to facilitate federal information sharing between agencies such as the Federal Bureau of Investigation, the U.S. Department of Homeland Security, the U.S. Department of Justice, and state, local, and tribal law enforcement) in improving intelligence-driven policing. The researchers note that fusion centres play a central role in the intelligence cycle as their mission is to collect, analyse, and disseminate information and intelligence, and conclude that partnering with a fusion centre in the region can help facilitate or enhance an intelligence-driven policing approach. S. Back & R.T. Guerette (2021) investigated the impact of improving criminal analysis capabilities in a US city police department on its practice and concluded that there was a clear improvement in the integrated use of the information received. The researchers noted that analysis plays a central role in modern police practice and noted the lack of scientific attention to this topic.

A preliminary review of scientific developments on the subject under study suggested that despite the scientific achievements of some researchers regarding the use of the intelligence cycle in criminal analysis, no attention has been paid to the problem of its use in combating drug-related crime. Scientific publications only outline certain provisions of the use of criminal analysis by the police in combating crime, which emphasises the relevance of the subject under study.

The purpose of this study was to investigate the latest scientific developments regarding the use of the intelligence cycle in criminal analysis and to develop an algorithm for its application to improve the effectiveness of combating drug-related crime. Considering the purpose, the objectives of the study were as follows: to develop a step-by-step algorithm for the application of criminal analysis in the field of combating drug-related crime, describing the stages of the intelligence cycle; to define the objectives of criminal analysis in the field of illicit drug trafficking (IDT); to summarise information on potential sources of information that can be used.

Materials and Methods

The range of strategic documents that indicate the current state of affairs with regard to drug-related crime, counteraction to it in the world, and the significance of the analytical component were examined. The EU Strategy to Tackle Organised Crime[1] was analysed, which defines strategic directions to ensure the protection of citizens and the economy, including the fight against drug trafficking. Communication on the EU roadmap

[1]Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions No. COM/2021/170 final "On the EU Strategy to Tackle Organised Crime 2021-2025". (2021, April). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0170.

to fight drug trafficking and organised crime[1], identifies the fight against these phenomena as a priority and defines key actions, including analytical ones; EU Drug Strategy 2021-2025 provides an overall political framework and policy priorities, including strengthening and enhancing capacities in information gathering, monitoring, evaluation, modelling and analysis[2]. The study analysed NATO's Glossary of Terms and Definitions, which provides definitions of the intelligence cycle and its elements used by the Alliance[3]. The OSCE Guidelines on Intelligence-led Policing, which describes a modern approach to identifying and planning responses to growing transnational threats, also describes the intelligence cycle for policing purposes (OSCE, 2017). The provisions of the National Drug Control Strategy[4], which emphasises the need to develop more effective data collection and analysis systems, were examine d.

A range of scientific methods were used for the researched. The terminological method was used to clarify the terminology on the subject of the study. The systemic and structural method was used to identify and describe the successive stages of the intelligence cycle as an integral structure. The analysis method helped to investigate individual parts of the intelligence cycle. The method of comparative analysis was instrumental in evaluating various approaches to the utilization of the intelligence cycle and determining the optimal model for addressing drug-related crime. The modelling method helped to simulate the use of the intelligence cycle for the purposes of countering drug crime. The formal logical method was used to clarify in detail the content of the issues raised and to describe the organisation of analytical activities in the field of combating drug-related crime. The method of generalisation is used to form a list of possible sources of information in analytical studies of IDT and the purposes of their conduct. To determine whether the needs of analysts in the field under study are met, a model of the intelligence cycle was proposed.

The method of expert evaluation was used to form an exhaustive list of possible sources of information and the purposes of their conduct. The survey was conducted in January 2024 anonymously online using the Google Forms tool. The anonymity of the experts was ensured by the absence of fields in the form that would require the entry of identifying information, and the respondents were informed of the purpose of the survey and all the risks. This stage of the research was conducted following the principles of the 1975 Helsinki Declaration[5]. The experts were asked to read the sequential list of stages of the intelligence cycle, the list of sources used, and possible purposes of analysis in the field of IDT, to agree or disagree with the points provided, and to supplement them if necessary. The list of targets and sources was compiled according to the practices of working in senior positions that included the function of applying criminal analysis in the Departments of Countering Drug Crime and Criminal Analysis of the National Police of Ukraine. Considering the small number of employees of specialised units with experience in applying criminal analysis in the field of IDT, the expert group consisted of 14 experts from Ukraine. The method helped to confirm that the list of possible targets and sources of information provided covers the vast majority of research cases, and the proposed model of the intelligence cycle meets the needs of analysts in the field of countering drug crime.

Results and Discussion

The issue of combating drug crime and the search for ways to increase the effectiveness of this fight has been important for decades. There is no reason to believe that this problem will become less relevant in the near future. Hidden from the public eye due to the opaque nature of its activities, organised crime poses a considerable threat to European citizens, businesses, and public institutions, as well as to the economy as a whole[6]. Drug trafficking is one of the most serious security threats facing the EU, a joint analysis by Europol and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) found that drug trafficking is one of the principal activities of organised crime, and is estimated to account for around one fifth of global criminal proceeds[7]. The priority should be to strengthen and

[1]Communication from the Commission to the European Parliament and the Council No. COM(2023) 641 final "On the EU Roadmap to Fight Drug Trafficking and Organised Crime". (2023, October). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023DC0641.

[2]EU Drugs Strategy 2021-2025. (2021, March). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021XG0324%2801%29&qid=1710526500407.

[3]AAP-06: NATO Glossary of Terms and Definitions. (2021, December). Retrieved from https://standard.di.mod.bg/pls/mstd/MSTD.blob_upload_download_routines.download_blob?p_id=281&p_table_name=d_ref_documents&p_file_name_column_name=file_name&p_mime_type_column_name=mime_type&p_blob_column_name=contents&p_app_id=600.

[4]National Drug Control Strategy. (2022, April). Retrieved from https://www.whitehouse.gov/wp-content/uploads/2022/04/National-Drug-Control-2022Strategy.pdf.

[5]The Declaration of Helsinki. (1975, October). Retrieved from https://www.wma.net/what-we-do/medical-ethics/declaration-of-helsinki/doh-oct1975/.

[6]Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions No. COM/2021/170 final "On the EU Strategy to Tackle Organised Crime 2021-2025". (2021, April). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0170.

[7]Communication from the Commission to the European Parliament and the Council No. COM(2023) 641 final "On the EU Roadmap to Fight Drug Trafficking and Organised Crime". (2023, October). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023DC0641

expand capacities in information collection, monitoring, evaluation, modelling, and analysis, and to encourage greater sharing and use of results on different aspects of the drug phenomenon and response[1].

Prompt and accurate intelligence analysis is key to understanding the inner workings and driving factors of criminal phenomena and criminal organisations (Criminal intelligence analysis, n.d.). The implementation of criminal analysis allows establishing or predicting relationships between accumulated facts, which allows constructing, testing, and excluding investigative versions (Yanitski, 2009). Foreign law enforcement agencies have long used criminal analysis in their work (Bilous *et al*., 2021). Effective drug policy development requires prompt and accurate data covering the full range of trends and activities[2].

One of the key factors that ensures the quality of analytical activities is the knowledge, skills, and experience of the employees who carry out criminal analysis. Analyst who conducts criminal analysis in the field of drug trafficking should have a thorough understanding of the general issues of drug crime and criminal behaviour, information on global drug trafficking routes, and general information on global trends. They should understand the structure of the drug market, be well-versed in legislation, general statistical information on drug-related crimes and its dynamics, know the specifics of detecting and documenting criminal activity, and know how to manufacture, sell, and conceal narcotic drugs, psychotropic substances, their analogues and precursors.

It is essential that analysts continue to update their knowledge and improve their skills throughout their careers. The agency responsible for countering drug crime needs to have a vision of the competencies that an analyst should have. The profile of the intelligence executive in general and the intelligence analyst in particular can contribute to the development of new areas of study and research, as well as new professional careers (Muñoz-Cañavate & Díaz-Delgado, 2021).

A key aspect of successful and efficient organisation of analytical activities and its basis is a profound understanding and meaningful adherence to the stages of the dynamic intelligence cycle, which should be considered the foundation of criminal analysis. The model of a six-stage cycle, as presented in Figure 1, best meets the needs of analytical activities in the field of combating drug trafficking, which includes the following consecutive dynamic phases: defining (setting) tasks and planning; collecting and evaluating data; generalising, systemising, and processing; analysis; preparing a report and submitting it to the customer; and feedback. The dotted arrow between the "analysis" and "data collection and evaluation" stages in Figure 1 indicates that additional data collection is often necessary during the analysis stage, particularly when testing hypotheses.

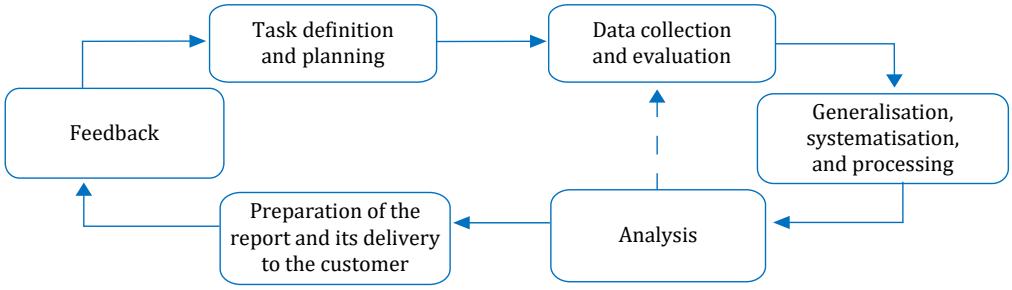

Figure 1. Intelligence cycle

Source: developed by the author of this study

To ensure the best results of analytical work and save resources, it is crucial that the analyst communicates with the customer of the analysis on an ongoing basis. At all stages of the cycle, close cooperation between analysts and customers (officials, investigators, managers) should be ensured, including regular meetings to ensure that the analysis is tailored to the customer's needs (OSCE, 2017).

To understand the intelligence process in the field of combating drug-related crime, it is advisable to characterise its main components as separate and specific stages. At the first stage of the task definition and planning cycle, it is necessary to determine the goals and objectives of the analysis and develop a relevant action plan. At this stage, the customer defines the tasks and objectives of the study and prioritises them, determines all the client's expectations for the results and deadlines. Therewith, the customer transfers the available information that is important for the criminal analysis and achievement of its goals.

[1]EU Drugs Strategy 2021-2025. (2021, March). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021XG0324%2801%29&qid=1710526500407.
[2]National Drug Control Strategy. (2022, April). Retrieved from https://www.whitehouse.gov/wp-content/uploads/2022/04/National-Drug-Control-2022Strategy.pdf.

The objectives of criminal analysis in the area of combating IDT include the following: determining the nature of the criminal activity; identifying assets and property that can be seized; establishing corruption links; establishing the motives and goals of the person(s) involved; clarifying business interests; collecting background information on the persons involved and their connections; Identification of the offender and their connections; determination of the structure of the criminal group; clarification of the spheres of influence of the criminal group; establishment of criminal roles; identification of places of production and storage of drugs; identification of sources of precursor supply; establishment of smuggling channels; establishing payment methods, logistics elements; analysing the activities carried out and developing proposals; identifying accomplices or witnesses; reconstructing the sequence of actions of the defendants in a certain period; comparative analysis of data; searching for evidential information; searching for links between data; reconstructing the course of the offence. Often, the results of intelligence analysis form the basis for or become part of tactical analysis, specifically in cases of analytical support for the development of organised criminal groups, and it is often necessary to analyse intelligence during tactical analysis.

The objectives of tactical criminal analysis may include: analysis of drug crimes by the method of sale; analysis of drug smuggling routes; analysis of certain types of drug crimes; analysis of the state of drug crime in a particular territory; determination of the list of typical methods of concealing drugs; determination of the scale of criminal activity of a criminal group; determining the scale of distribution of a particular type of drug; determining the list of methods of commission and calculation; determining the structure of the drug market; identifying typical patterns of criminal activity; identifying patterns and trends in crime; tracking the emergence of new patterns, methods of distribution; establishing the profile of the crime and the criminal; identifying and predicting changes in drug crime; crime forecasting.

After reviewing the materials provided by the customer, the analyst determines whether the data is sufficient to achieve the goals and objectives or expresses the need to obtain additional information that falls within the customer's competence. Considering the tasks, priorities, and deadlines, the analyst develops a preliminary criminal analysis plan that indicates the ways to achieve the goals, serves as a guide and checklist in the analytical work and is supplemented during the subsequent stages of the cycle.

The next stage involves collecting, storing, and evaluating data. Before initiating the data collection process, it is important to determine the amount of data required and its sources to perform the tasks effectively. The process of data collection in the context of the intelligence cycle of drug trafficking analysis is an interesting, complex, and multifaceted task that requires detailed planning, quality assurance, and maximum reliability of data, as well as compliance with the established goals and objectives of the analysis.

The process of data collection in the analytical cycle of drug trafficking crime analysis can include a wide range of data sources, namely: materials of criminal proceedings and operational developments, information on customs clearance, court registry data, information obtained from interviews with drug traffickers, open source data, information from employees countering drug-related crime, information from intelligence sources and anonymous sources, technical data, information obtained from international partners, intelligence data, information obtained as a result of covert investigative (detective) actions or operational and technical measures, financial records, telephony and video surveillance data, information from the criminal executive service, etc.

A relatively new source of information is the use of data from water monitoring programmes, which can provide information on drug use in a particular region. Chemical analysis of domestic wastewater can reveal the presence of illicit drugs that are either consumed by the public or directly discharged into the sewerage system. The resulting chemical profiles can then be used to track production sites within the respective sewerage basin (Emke *et al*., 2018). Based on this information, it is possible to observe changes in patterns of illicit drug consumption, transportation processes and chemical, photochemical, and biological transformations of dangerous drugs. The proposed procedure can be used as a tool to track and assess drug use among the population in real time (Sulej-Suchomska *et al*., 2020). When wastewater monitoring results are interpreted in combination with other data sources, such as seizure data, hospitalisation data, drug-related mortality and treatment data, very comprehensive results can be obtained for a selected region (Kuloglu *et al*., 2021). Notably, international cooperation in cases related to the smuggling of narcotic drugs, psychotropic substances, their analogues and precursors plays a key role at the stage of information gathering and allows for a broader picture of the events under investigation.

The choice of data sources depends on the goals and objectives of the analysis, as well as resources and capabilities, and its success depends on having access to sufficient relevant information (Criminal analysis and risk..., 2016). Each of the above sources can be potentially valuable for analytical research, both in the context of intelligence analysis and tactical analysis. However, the quality and reliability of the information may vary substantially. Therefore, it is necessary to maintain a critical mindset and use a variety of sources and verification methods to ensure the accuracy and completeness of the data collected. In tactical analysis, the following sources of information can be considered: statistical

information, information from NGOs and international organisations, and data from healthcare facilities.

To ensure tactical analysis and monitoring of drug trafficking, it is necessary to continuously collect and summarise structured data with details by type of drug, geolocation, and visualisation using GIS (Geographic Information Systems). Specifically, it is important to collect information on: arrests for large-scale trafficking; Internet resources used for trafficking; detection of illegal crops of drug-containing plants; smuggling facts; detected drug laboratories; significant seizures of narcotic drugs and psychotropic substances outside the country; theft of considerable quantities of precursors; emergence of new psychoactive substances; deaths from the use of new psychoactive substances; connections in Ukraine of those detained for smuggling outside the country, as well as the facts of detention of Ukrainian citizens abroad for grave drug offences.

The process of data evaluation in the analytical cycle of drug trafficking crime analysis is the process of determining the value of information elements in terms of validity, reliability, and relevance. The result of such an assessment should be a conclusion on the relevance of the information to the goals and objectives. The assessment can help identify data gaps and strengths and guide further data collection.

At the next stage of the cycle, the collected information is summarised, systematised, and processed. The systematisation stage involves the organised structuring and processing of the collected information, considering the goals, objectives, priorities, and importance, converting the collected data into a format suitable for analysis, and ensuring that the stored information is available for analysis. During the research, the distinction between the processing and analysis stages is not always clear, as they are closely intertwined, forming a single process aimed at gaining a comprehensive understanding of the subject under study. Notably, NATO defines intelligence as a product derived from the targeted collection and processing of information about the environment, capabilities, and intentions of actors to identify threats and offer opportunities for use by decision makers[1].

The work of a criminal analyst largely involves assembling an information puzzle from many different sets. After summarising, systemising, processing, and prioritising the information, the analyst will have a convenient array for detailed analysis. The analysis stage involves identifying and studying the meaning, context, and principal characteristics of the available information. Data analysis helps to identify information gaps, determine the strengths and weaknesses of the data, and identify areas for further research. The key purpose of the analysis phase is to obtain meaningful information from the source data, transform it into new knowledge that will contribute to achieving the goals of the analytical study, completing the tasks set by the customer, and providing practical recommendations for combating crime. Analysis can be described as the careful examination of information to identify its meaning and main characteristics (United Nations, 2011). According to J. Stromer-Galley *et al*. (2020), supporting analytical reasoning in the context of intelligence can bring more benefits if approaches focus on reasoning processes in a flexible, report-oriented format. According to S. Lefebvre (2021), analysts must watch out for cognitive biases, misinformation, and deception, consider the reliability of information, and identify information gaps that may still exist.

The choice of a tool for analysis should be based on the suitability of its functionality for the tasks and goals set. For most of the analysis and visualisation tasks within the framework of operational data analysis and tactical analysis, i2 Analyst's Notebook and MS Excel software can be used. At the same time, GIS skills are important for providing geospatial visualisation in tactical analysis. When the results of the analysis are directly related to and relevant to the investigation's objectives/issue, the analysis becomes valuable as an operational tool (OSCE, 2017). It is worth remembering that each analysis is unique and requires a different approach. Concrete analysis is based on the system of judgement analysis, according to which the following principles should be used: from the detailed to the general; from the complex to the simple; from the effect to the causes; from theses to their foundations (Fedchak, 2021).

The analysis process consists of two stages – data integration and interpretation. Data integration is a complex process of combining information from different sources to improve its perception, identify patterns, formulate hypotheses, and draw reasonable conclusions. Hypotheses help to identify gaps in operational information, to better guide further data collection and to draw accurate conclusions, forecasts, and estimates (OSCE, 2017). During data integration, visualisation of information, such as building relationship diagrams and timelines, helps investigators to better understand the data, identify gaps, key players, the structure of an organised criminal group and gain insight into their activities. Other tools that can be used to display information, ensure its best perception and analysis are as follows: flow charts, activity charts, financial profiling (United Nations, 2011), and geospatial analysis – a powerful tool used to visualise and analyse geo-referenced data, which helps researchers to study drug

[1]AAP-06: NATO Glossary of Terms and Definitions. (2021, December). Retrieved from https://standard.di.mod.bg/pls/mstd/MSTD.blob_upload_download_routines.download_blob?p_id=281&p_table_name=d_ref_documents&p_file_name_column_name=file_name&p_mime_type_column_name=mime_type&p_blob_column_name=contents&p_app_id=600.

trafficking routes, logistics, hotspots, and plan operations to counter drug crime.

The most creative part of analytical research is interpretation. At the stage of interpretation, the analyst tests the initial hypotheses, which may lead to confirmation, modification, or refutation of previously developed assumptions, establishes cause-and-effect relationships and draws reasonable conclusions. Data interpretation is not limited to describing or explaining information; it is an active, dynamic process that requires a profound understanding of the context, critical thinking, creativity, and flexibility. J.A.M. Sánchez (2018) concludes that an analyst should approach their work with an open and innovative mindset, free from preconceived ideas, prejudices, and expectations.

Any comparison, explicitly or implicitly, is based on interpretation (Wagenaar *et al*. 2022). Data interpretation is considered a process of creating meaning. This requires attention to the purpose of the data analysis, the types of questions that are being asked and who is asking them, and the types of data that are needed or available (Maxwell, 2021). The results of the analysis are usually drafted in the form of an analytical report, which includes conclusions, a detailed description of the research conducted, substantiated answers to the questions posed by the client, important information that was not covered by the goals and objectives of the analysis, as well as suggestions and recommendations of the criminal analyst. Conclusions should be listed at the beginning of the analytical report.

Effective communication with the customer throughout the analytical process is key to delivering results that meet their needs. It is important that threat-based intelligence is transmitted in real time (Trim & Lee, 2022). The customer should inform the analyst of all key changes and additional information received on the matters concerning the investigation. The cycle for major cases typically lasts several rounds of feedback and new information before any final product takes shape (Bland *et al*., 2022). A. Williamson (2021) notes that without cooperation and collaboration, opportunities for crime prevention can be lost, and proactivity is hampered by a lack of intelligence sharing. It is advisable to add high-quality visualisation to the analytical report in the form of charts, graphs, maps, depending on the goals, objectives, and results of the analytical study.

An equally important stage of the cycle is receiving feedback from the customer, as it helps to improve the quality of tasks and professional development. Analysts and their managers should be aware of the compliance of the analytical research results with the customer's expectations, as well as know how the recommendations provided affect the decision-making process and planning of further actions. Additionally, analysts should receive feedback on opportunities to improve the quality of their work. This also applies to customers, who should be open to analysts' suggestions for further improvement of cooperation.

According to F.J. Haberl (2023), intelligence gathering has always been an important asset for governments in both peacetime and wartime. T. Shakoor (2023) notes that the intelligence cycle has been a standard model for intelligence processes and national intelligence doctrines in the United States and Europe. The intelligence cycle is widely used in intelligence, counterintelligence, and law enforcement activities. A. Villalón-Huerta *et al*. (2022) propose to use the intelligence cycle as a basis even in countering cyber threats, as they believe that detecting hostile operations is a counterintelligence activity, and therefore should be structured and analysed in the same way.

C.R. Moran *et al*. (2023) believe that the intelligence cycle has never been a perfect conceptual tool. C. Payá-Santos & J.M.L. Luque Juárez (2021) argue that the intelligence cycle has been improved by giving it specialisations according to the origin of the data, depending on whether it comes from people (HumInt), images (ImInt), signals (SigInt), or open sources (OsInt). In relation to this discussion, the intelligence cycle is a broader model that encompasses all the "Ints" used depending on the tasks and purpose of the study and is a useful structured guide for effective analytical activities.

There are different opinions regarding the number of stages of the intelligence cycle, which is caused by the tasks and specific features of the activities of the subjects of analytical work. For example, NATO defines the intelligence cycle as a sequence of four actions through which information is obtained, collected, transformed into intelligence, and provided to users[1]. Therewith, considering the tasks of combating drug-related crime, it is more expedient to adhere to a cycle of six stages that meets the needs of law enforcement agencies that counter drug trafficking. Such a cycle is used by many law enforcement agencies, including the International Association of Law Enforcement Analysts, which also identifies the following stages of the intelligence cycle: planning and direction, collection, processing and synthesis, analysis, dissemination, and reassessment, including feedback (IALEIA, 2024). This vision corresponds to the structure of the research process proposed in the study.

According to C.R. Moran *et al*. (2023), the cycle will require further revision of the concept in the context of modern technologies. There are concerns about cycle times and whether effective oversight and human control are sustainable in the context of complex

[1]AAP-06: NATO Glossary of Terms and Definitions. (2021, December). Retrieved from https://standard.di.mod.bg/pls/mstd/MSTD.blob_upload_download_routines.download_blob?p_id=281&p_table_name=d_ref_documents&p_file_name_column_name=file_name&p_mime_type_column_name=mime_type&p_blob_column_name=contents&p_app_id=600.

automation processes enabled by AI and the increasing involvement of technical staff. This cycle will require to be redefined as artificial intelligence converges with cloud computing, the Internet of Things, and robotics. Notably, all this will not affect the structure of the intelligence cycle in analytical studies of drug-related crime in the near future, although it may accelerate and automate the stages of data collection and evaluation, as well as generalisation, systematisation, and processing.

Although the intelligence cycle is researched and described in a clear sequence of six stages in the study, we may agree with I. Fedchak (2021) that these components are interconnected and should ultimately be considered as a system. The intelligence cycle is not a static sequence of six steps, but rather a dynamic process where the different phases are closely linked and interact with each other, requiring analysts to move back and forth within the cycle (OSCE, 2017).

Thus, the intelligence cycle is a universal model of analytical activity in various fields, and depending on the field, the cycle may have specific features. The study has confirmed the author's statement that the proposed six-stage, dynamic intelligence cycle optimally meets the needs of analytical activities in the field of combating drug-related crime. Modern technologies will not affect the cycle model in the near future but may improve its separate stages.

Conclusions

The effective use of criminal analysis methods and tools helps not only to detect and seize drugs and apprehend individual criminals, but also to expose large-scale criminal networks, money laundering means, and international logistics. High-quality intelligence analysis and tactical criminal analysis are essential to ensure a thorough understanding of criminal processes and effective counteraction to drug-related crime, planning, response to drug trafficking challenges, forecasting and rational allocation of valuable law enforcement resources. The intelligence cycle underlies analytical activity and is necessary for planning and implementing law enforcement efforts to combat drug-related crime. The cycle is not a fixed sequence of steps, but a flexible and dynamic process that requires analysts to think critically and creatively, to respond to new information in a meaningful way and to move through the stages of the intelligence cycle. It is important to understand that these stages are not rigidly fixed, but can be performed in an iterative manner, with a transition back to the previous stages as new information is obtained. Furthermore, deadlines should be considered and flexibility in planning should be maintained to adapt quickly to changes. It is worth remembering that every analysis in the field of countering drug crime is unique and requires a non-standardised approach.

Often, the results of intelligence analysis form the basis for or become part of tactical analysis, specifically when it comes to analytical support for the development of organised crime groups. To ensure tactical analysis and monitoring of the operational situation in the field of drug trafficking, it is necessary to continuously collect and summarise structured data with details by type of drug, geolocation, and visualisation, including through GIS. The quality and relevance of the data collected and analysed are key factors in determining the accuracy and effectiveness of the analysis, as well as the efficiency of measures aimed at combating drug crime and reducing the harm caused by drug trafficking. It is significant to emphasise that the effective fight against illicit drug trafficking requires constant efforts, including in terms of information gathering and analysis, as well as active cooperation between law enforcement agencies, international organisations, and the private sector. The intelligence cycle is a universal tool that allows streamlining any activity related to information analysis, ensuring quality control and high-quality results of analytical work, specifically in the field of combating drug-related crime.

The findings of this study allow identifying areas for further research in this area, specifically, to improve certain elements of the intelligence cycle, to find the best analytical tools and methods, and to identify prospects for the use of AI at different stages of the intelligence cycle.

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Conflict of Interest

The authors of this study declare no conflict of interest.

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Розвідувальний цикл як основа аналітичної діяльності в протидії наркозлочинності

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Анотація
Актуальність тематики дослідження зумовлена тим, що для ефективного розв'язання проблеми наркозлочинності потрібно розробляти та впроваджувати стратегії, які ґрунтуються на найкращих практиках, підкріплених науковими дослідженнями, що оптимізують використання ресурсів правоохоронних органів й обмежують шкоду, яку спричиняє незаконний обіг наркотиків. Метою роботи є дослідження останніх тенденцій щодо застосування циклу розвідки в боротьбі зі злочинністю, створення та опис моделі його застосування у сфері протидії наркозлочинності. Для досягнення мети наукового дослідження використано такі наукові методи: термінологічний, системно-структурний, аналізу, порівняльного аналізу, моделювання, формально-логічний, узагальнення та експертної оцінки. Доведено, що для ефективної та результативної організації аналітичної діяльності у сфері протидії наркозлочинності вкрай важливими є ґрунтовне розуміння та чітке дотримання етапів розвідувального циклу, який є основою кримінального аналізу. Сформульовано висновок, що розвідувальний цикл – це гнучкий динамічний процес, що вимагає від аналітиків критичного і творчого мислення, уміння осмислено реагувати на нову інформацію та переміщатися етапами розвідувального циклу. Проаналізовано розвідувальний цикл, висвітлено діяльність аналітика на кожному з його етапів, зокрема під час: визначення (постановки) завдань і планування; збору й оцінки даних; узагальнення, систематизації та обробки; аналізу; підготовки звіту та його передачі замовнику; отримання зворотного зв'язку. Результати дослідження засвідчили, що розвідувальний цикл є універсальним інструментом, який дає змогу впорядкувати будь-яку діяльність, пов'язану з аналізом інформації, забезпечити контроль якості та високі результати аналітичної роботи, зокрема у сфері протидії наркозлочинності. Під час дослідження розроблено перелік можливих завдань аналітичної роботи у сфері протидії незаконному обігу наркотичних засобів, психотропних речовин, їх аналогів і прекурсорів, а також узагальнено потенційні джерела необхідної для аналізу інформації. Результати дослідження стануть у нагоді керівникам підрозділів, що здійснюють боротьбу з наркозлочинністю, працівникам, які відповідно до функціональних обов'язків застосовують кримінальний аналіз у протидії наркозлочинності, і науковцям, які досліджують окреслену проблематику

Ключові слова:
кримінальний аналіз; наркотики; торгівля наркотиками; аналітичне дослідження; контрабанда наркотиків; аналіз даних