# THE USE OF CRIMINAL ANALYSIS IN COMBATING AND INVESTIGATING ORGANIZED CRIME

# O USO DA ANÁLISE CRIMINAL NO COMBATE E NA INVESTIGAÇÃO DO CRIME ORGANIZADO

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**Abstract:** The scientific article is devoted to the study of theoretical and applied problems of using the possibilities of criminal analysis in activities to combat crimes committed by organized criminal groups. The main features and types of criminal analysis are highlighted. With the help of a complex of general scientific and special methods, the peculiarities of the use of criminal analysis on the territory of Ukraine were clarified, the prospects of its active implementation at the national level were determined with the aim of increasing counteraction to organized criminal activity. A conclusion was made about the prospects for the further development of the mentioned institute in development of the theoretical methodological foundations of its use, the introduction of the latest methods of criminal analysis in order to ensure the fulfillment of the tasks of pre-trial investigation bodies and operational units, in particular, in relation to countermeasures, detection and investigation of crimes committed by organized criminal groups.

**Keywords:** Criminal analysis. Analytical support. Organized crime. Criminal offenses. Countermeasures. Investigation.

Resumo: O artigo científico é dedicado ao estudo dos problemas teóricos e aplicados do uso das possibilidades da análise criminal nas atividades de combate aos crimes cometidos por grupos criminosos organizados. As principais características e tipos de análise criminal são destacados. Com a ajuda de um conjunto de métodos científicos gerais e especiais, as peculiaridades do uso da análise criminal no

território da Ucrânia foram esclarecidas, as perspectivas de sua implementação ativa em nível nacional com o objetivo de fortalecer a luta contra o crime organizado foram determinadas. atividade. Concluiu-se sobre as perspectivas de maior desenvolvimento do referido instituto no desenvolvimento de fundamentos teóricos e metodológicos de seu uso, a introdução dos mais recentes métodos de análise criminal para garantir o cumprimento das tarefas da fase pré-julgamento. órgãos de investigação e unidades operacionais, em particular, em relação a contramedidas, detecção e investigação eficaz de crimes cometidos por grupos criminosos organizados.

**Palavras-chave:** Análise criminal. Suporte analítico. Crime organizado. Infrações penais. Contramedidas. Investigação.

#### 1. Introduction

The formation of an effective crime prevention system is impossible without obtaining, deliberate analysis and use of reliable data on the current state of crime and its trends (Zhuchenko, 2023; Turovets, Kravchuk, 2014). The study and criminological analysis of quantitative and qualitative indicators of crime and its individual types is a necessary prerequisite for the implementation of criminological protection against crime.

In the UK, the USA, Canada, China, the countries of the European Union, and other developed countries of the world, the use of criminal analysis capabilities is mandatory for all law enforcement agencies. Its content, rules and procedures are clearly defined and legally regulated. This concerns the conduct of operational investigative activities, pre-trial investigation and consideration of criminal proceedings in court (Albul, 2015).

In today's conditions, the disclosure of high-profile, serious and especially serious criminal offenses is impossible without the participation of criminal analysts and the appropriate conduct of analytical intelligence work during investigative and criminal proceedings (Bilous, Vasylynchuk, Taran, 2021). In addition, criminal analysis can play a key role in cases against senior political and military leaders responsible for international crimes. Its skillful use can contribute to identifying and proving the involvement of the highest echelons of command in the designated and other serious crimes committed on the ground (Open-Source Intelligence and Criminal Analysis: EU Best Practice Exchange, 2023).

The foregoing determines the relevance and timeliness of clarifying the possibilities of criminal analysis used by law enforcement agencies in combating organized crime. The purpose of the scientific publication is to analyze the problems of organized crime and develop theoretical and practical recommendations aimed at documenting and countering it with the help of modern capabilities of criminal analysis.

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# 2. Methodology of the study

The methodological arsenal of a scientific publication covers the use of a significant range of methods. The main of them is the universal dialectic method, which contributed to the study of theoretical and applied problems of using the possibilities of criminal analysis in activities to combat crimes committed by organized criminal groups. The method of analysis and synthesis is used to study such basic types of criminal analysis as operational and strategic; the unity of the historical and the logical – when justifying the category "criminal analysis"; methods of induction, deduction, structural-functional, scientific abstractions – to determine the priorities of the application of criminal analytics in the fight against organized crime and ways of ensuring it in the conditions of globalization processes; the formal-logical method allows the use of signs of organized crime; method of structural analysis, used to characterize the patterns and features of the use of criminal analysis by pre-trial investigation bodies and operative units. The statistical method was used to assess the importance of individual processes of analytical search and analytical activity based on the optimization of information flows. The method of forecasting has found its application in the defined perspective of the application of criminal analysis in the fight against organized crimes within the framework of national and international cooperation.

# 3. Analysis of recent research

It is worth pointing out the close attention of scientists to various aspects of analytical activity in the fight against crime. In particular, the issue: monitoring and analyzing network traffic between computers for the purpose of gathering evidentiary information (Palmer, 2001); managed intelligence analytics and criminal intelligence in the fight against crime (Carter, Phillips, Gayadeen, 2014); general basics of criminal analysis (Korystin, Albul, Holostenko, Zayets, 2021); perspectives of using criminal analysis methods during operative proceedings and pre-trial investigation (Zaets, 2016; Bilous, Vasylynchuk, Taran, 2021); application of criminal analysis in the detection and investigation of crimes at the state border (Vlasyuk, 2011), etc.

Often, the commission of criminal offenses is organized in nature, accompanied by corruption. Thus, the organized criminal business associated with illegal fishing in the coastal regions is significantly facilitated by the actual inactivity of the controlling and law

enforcement agencies in detecting and countering the facts of illegal trade in valuable varieties of fish and its products, the extraction of amber in certain regions is often facilitated by high-ranking officials, etc. Therefore, in the modern information society and organizational and legal changes in the activities of law enforcement agencies, there is a need to study the use of the possibilities of criminal analysis in the fight against organized crime.

#### 4. Results and discussion

# 4.1 General characteristics of criminal analysis in combating crime

Organized crime today poses a significant threat to national security. Its distinguishing features include: durability and stability of a criminal organization, which in most cases effectively manages a complex of criminal activities from an organizational and economic point of view, and also has the ability to minimize risks arising in connection with this; long-term activity planning; involvement of individuals and commercial structures in it; creation of criminal networks. Another of its characteristics is the orientation of the market, in particular the illegal one. The main purpose of the activities of criminal groups is to obtain material benefits.

Within the framework of the granted powers, law enforcement agencies receive a sufficient array of information about criminal activity. In connection with the above, obtaining the opportunity to process a large amount of available data is an extremely important task (Korystin, Albul, Holostenko, Zayets, 2021). One of such means in the activity of operational units of law enforcement agencies is criminal analysis – a specific type of information and analytical activity, which consists in the identification and as accurate as possible determination of internal connections between information (information, data) related to a crime and any other data obtained from various sources, their use in the interests of operational search and investigative activities, their analytical support (Bilous, Vasylynchuk, Taran, 2021).

It can be stated that criminal analysis is the basis of the "Intelligence Led Policing" model (from English "police activity guided by analytics"), aimed at making effective management decisions based on the use of a complex of methods and techniques for collecting, processing, evaluating, analyzing and implementing information, as well as exchange of information during criminal proceedings, operational and investigative activities, and development of tactical and strategic measures to combat crime.

As a specific type of information-analytical activity, criminal analysis consists in the

identification and as accurate as possible determination of internal connections between information related to a criminal offense and any other data obtained from various sources, their use in the interests of operational- search and investigative activities, their analytical support (Vlasyuk, 2011). The main features and components of criminal analysis include: a set of systematic analytical processes; study of certain characteristics and trends; identifying and understanding the connections between criminal information and other information; systematic specific information and analytical activity; processing of information that is essential for management or decision-making; prevention, termination, disclosure and investigation of crimes or management decision-making.

In particular, in accordance with Art. 25 of the Law of Ukraine "On the National Police", the police have the right to carry out information and analytical activities within the framework of which they also carry out information and search and information and analytical work (On the National Police, 2015). The main task of criminal analysis workers is to "operationally" provide the initiators (management, units of the criminal police and pretrial investigation) with reliable, up-to-date, objective, complete information in order to effectively perform the tasks defined in Art. 2 of the Law of Ukraine "On the National Police" (On the National Police, 2015). During the implementation of criminal analysis, purposeful search, detection, fixation, extraction, organization, analysis and assessment of criminal information, its provision and implementation is ensured.

The practical application of the criminal analysis method by operational and investigative units of the police confirmed its high efficiency in multi-episode proceedings covering a large area, including a significant number of events and subjects of a criminal group with a complex structural structure. In these cases, traditional methods of tracking and associating facts were not effective enough. Criminal analysis can cover the following areas: crime, criminals and methods of conducting cases (Zaets, 2016).

In the process of criminal analysis, two main types are distinguished - operational and strategic (Korystin, Albul, Holostenko, Zayets, 2021).

To date, operative analysis as a type of criminal analysis has become indispensable primarily in the detection of criminal offenses, and analysts are involved in the specified process almost immediately, along with operatives and investigators. A key factor when using methods and methods of operational criminal analysis in the detection of criminal offenses is a clear interaction between the operative and the analyst, because only under such conditions can effective results be achieved in the shortest possible time. The effective use

of operational criminal analysis at the initial stage determines the analyst's use of available databases in the shortest possible time to establish the identity of the criminal, systematize identifying data, search for hidden patterns in the activities of criminals, organized criminal groups and organizations, build systematic and structured connections in a situation of non-obviousness (Bilous, Vasylynchuk, Taran, 2021).

The components of operational analysis are: analysis accompanying operational search and investigative activities; analysis, which is conducted to support operational search and investigative activities; analysis, which initiates operational search and investigative activities. All of the mentioned forms of analysis are interrelated, if the analysis accompanies investigative and investigative activities, it simultaneously supports it and provides grounds for conducting investigative (search) actions and investigative activities (Zaets, 2016).

In practice, criminal operational tactical analysis during the investigation of crimes committed by organized criminal groups is capable of: providing support for individual investigative (search) actions, covert investigative (search) actions, implementation of operational search measures; to determine and contribute to the improvement of tactics and methods of conducting investigative cases; find out the sphere of interests of criminals, their psychological characteristics; establish the structure and role of a specific organized criminal group, etc.

During the analytical process, information about the identity of the criminal, the course of the event, time, place and instrument of committing the criminal offense, etc. is evaluated, information from open sources (satellite images, videos, photos, maps, registers, social networks and other means) is studied and analyzed. The said information is exchanged between operatives and investigators, who use their capabilities when receiving it. The source of relevant information can be materials of criminal proceedings, in particular, protocols of interrogations of witnesses and suspects, materials of operative and investigative cases, reports of other bodies, databases, media reports, etc.

In the context of the issues under investigation, the purpose of the relevant analytical process is to propose and verify hypotheses and conclusions regarding past, present and future illegal actions, including a description of the structure and scope of activity of criminal groups, as well as the transfer of detailed information to the management team about operational and investigative measures and investigative (investigative) actions The relevant analytical activity should not be limited to the study of the criminal offense only. It can and should also include a comparative analysis of similar criminal offenses in order to establish

whether they could have been committed or organized by the same person. In the course of conducting a comparative analysis of criminal offenses, such analytical technologies as a systematic search in databases, review of reports and reports, comparison of the similarity of the received data and determination of the probability of this similarity are used.

Thus, tactical criminal analysis is a painstaking and extremely important activity, the level of crime in a certain region directly depends on the effectiveness of its implementation. Only a thorough tactical criminal analysis with mandatory consideration of knowledge of criminology will be able to ensure the fulfillment of the main task of analytical units – to effectively contribute to the detection of criminal offenses and prevent their commission in the future.

Longer-term problems and tasks, such as the identification of the main figures or criminal syndicates, forecasts of the growth of criminal activity, determination of priorities in law enforcement activities are dealt with by strategic analytics. Strategic analysis is carried out for the purpose of preparing strategic management decisions and determining the risks of the development of a criminogenic situation. The products of strategic analysis are, for the most part, proposals for improving the fight against crime, analyzes of phenomena, reports on the situation, etc.

In many cases of crimes committed by organized criminal groups, the results of strategic analysis play a key role in determining the optimal strategy and tactics of criminal investigation. This conclusion is confirmed, in particular, by the practical possibility of implementing certain forensic methods developed by forensic science during the investigation of specific crimes.

International criminal offenses against the environment require special attention, because the vast majority of national and international prosecution mechanisms for their commission are focused on natural persons - the direct causes of the corresponding damage. Establishing them in the context of the large-scale armed aggression of the Russian Federation against Ukraine, for obvious reasons, causes significant difficulties. However, it is much more important that individuals of the highest military and political leadership who actually authorized the destruction of Ukraine's nature be brought to justice, and that the damage caused be recovered from the aggressor state.

Russia's criminal offenses on the territory of Ukraine must be properly recorded for the subsequent formation of lawsuits in international justice bodies. In the context of armed conflicts, the commission of these criminal offenses can be considered by the International

Criminal Court, whose jurisdiction is determined by Art. 5.1 of the Rome Statute (Rome statute of the International Criminal Court, 1998). In order for the relevant mechanisms to be fully implemented, one of the tasks of law enforcement agencies is the use of advanced global practices of strategic analysis regarding ecocide, the prompt exchange of information with law enforcement agencies of other countries, the development and implementation of modern software analytical tools, the development and formalization of implementation methods strategic analytics, conducting and participating in trainings and practical exercises.

In our opinion, given the complication of the criminogenic situation in Ukraine in connection with the declared martial law, the procedure for access by Ukrainian law enforcement officers to international databases requires further legislative standardization. This will greatly simplify the detection and investigation of criminal schemes for the legalization of income obtained from the commission of crimes. For example, the Memorandum of Understanding between the National Bureau of Investigation of Ukraine and the Federal Bureau of Investigation of the United States of America and the Agreement between Ukraine and Europol on operational cooperation allow the detective to obtain information on the distribution of money flows related to international money laundering, bribery and corruption of high-ranking officials of Ukraine. In turn, this gives the Department of Analytics and Information Processing of the National Bureau of Investigation of Ukraine ample opportunities to detect corruption crimes through criminal analysis (The National Bureau of Investigation: Memorandum signed. Official website of the National Bureau of Investigation of Ukraine, 2023).

Thus, the main feature of criminal analysis for investigative purposes is the optimal combination of strategic and operational criminal analysis techniques to solve the current and global tasks of law enforcement agencies in combating crime. With the help of appropriate measures, operational and investigative units can establish the special circumstances of a committed criminal offense, identify the activities of an organized criminal group in order to develop measures to counter it, etc. It is the complex use of the specified types of criminal analysis that will contribute to the creation of prerequisites for the effective detection and prevention of primarily organized crime and the implementation of investigative activities.

#### 4.2 Peculiarities of the application of criminal analytics in combating

#### organized crime

Since organized crime is characterized by such features as collectivity, hierarchy and complexity of criminal schemes, software and analytical complexes are used to carry out criminal analysis, which analyze various types of data in short periods of time, allow to connect data from several information systems at once and combine them in one piece. At the same time, it is quite effective to use modern analytical tools, appropriate software, as well as information resources that make it possible to detect hidden connections.

The basis of conducting a criminal analysis is the availability of high-quality software, because the analyst works with a large amount of information every day, which he receives from information systems of an accumulative nature. In modern conditions, information technologies are indispensable when receiving information, building plans, schemes, graphs, models, as well as when identifying a person, etc.

The use of software during data analysis has many advantages, increases productivity and efficiency of work, makes it possible to easily find and access the necessary information. The development of modern information technologies makes it possible to create new work methods, increase professionalism and increase the effectiveness in combating, uncovering, investigating crimes and analyzing information.

There are a small number of analogues who are set up to work directly with information obtained during the investigation of offenses. One such tool is IBM i2 Analyst's Notebook from i2 Group. This software allows you to use huge amounts of information as efficiently as possible, uses its advantages to form databases, visualize information, search modules for social networks, and geo-positioning capabilities. In addition, the IBM i2 Analyst's Notebook has an intuitive interface that allows analysts to quickly compare, analyze and visually present data from various sources of information, which reduces the time to search for important information in complex data (Symonenko, Lysenko, Kuzin, 2022).

We see the prospects for wider use of i2 in the activities of analytical services of law enforcement agencies in the process of organizing effective measures to fight crime, namely during: investigation of complex multi-episode crimes; disclosure of ongoing crimes in the specified area, combating organized crime, etc.

After the full-scale Russian invasion of the territory of Ukraine, law enforcement agencies began to actively use facial recognition technology on the Internet called Clearview AI. This software was provided free of charge for temporary use in order to facilitate the identification of the dead, the recognition of Russian occupiers who commit war crimes. As

some scientists rightly point out, in peacetime this resource could become one of the most powerful tools for identifying criminals (Symonenko, Lysenko, Kuzin, 2022).

In addition, temporary access to the BigDataPeople product from the ARTELLENCE company was provided, which helps to quickly, efficiently and structured establish family and friendship ties of a person in social networks, the owner of a phone number, find a person in social networks by data or photo.

An integral part of the work of a criminal analyst is the search for information. Currently, there are a large number of devices that make it easier to simplify the process of finding information. One of them is Lampyre, which allows you to "scan" the Internet in a few simple movements and find mentions by phone number, email address, and in a visually convenient form, get information about when the information was published, on which web resource, and other related data upon request.

The use of OSINT technology during criminal analysis can minimize the time spent by operatives and investigative units to solve tasks and improve the quality of their information-search and information-analytical activities.

There are a number of free solutions in the Telegram messenger and in mobile applications that allow you to identify the person who owns a mobile phone number, such tools include: GetContact mobile applications, which provides information about how the phone number has been signed by other users' application and "Eyecon", where you can see whether the phone number is linked to the "Facebook" social network page and the "WhatsUp" account.

The source of receiving information can be distributed messengers, such as "WhatsUp", "Telegram", "Viber", as well as social networks. Quite often, those involved in criminal proceedings, their relatives and acquaintances highlight their lives by publishing photos and video materials that may be of operational interest, such as places of rest, photos with alleged accomplices, cars, etc.

Currently, one of the priority directions for improving the effectiveness of law enforcement agencies in combating organized crime is improving the processes of analytical search and analytical activity based on the optimization of information flows.

Among the most common analytical products used in professional activities by criminal analysts of many leading countries, in addition to the above-mentioned IMB i2 Analyst's Notebook – an analytical tool that allows you to process and analyze a large amount of data in a minimal period of time, are: Crime Center (Shotspotter) – a system that, using

sensors and artificial intelligence, detects and warns of shootings in the police service area and enables a quick response to the use of firearms; ePOOLICE is a system that detects threats from organized criminal groups using computer scanning methods and intelligence systems; Command Central Aware Motorola – a set of tools that helps to process collected information, make visual analysis and manage video streams and image recognition systems; Maltego is a system designed for graphical analysis of Internet links in open Internet sources in real time and information gathering, automatically combining relevant information in one graph and visually plotting it on a map; Palantir Gotham is a single information portal through which users can search for information and collect data from all relevant systems of the US national information exchange system; SmartCOP is an intelligent platform that has an automated law enforcement document management system and dispatching (call processing), analytics and software for mobile patrols in police departments, mobile reporting and interagency reporting (Strukov, Uzlov, Gnusov, 2021).

It should also be noted that the identification and research of the structural features of organized crime can be carried out by implementing the SOCTA – Serious and Organized Crime Threat Assessment methodology into the activities of law enforcement agencies, the methodology of which was developed by Europol together with a group of experts on the assessment of threats of serious crimes and organized crime. SOCTA aims to: analyze the nature or type of threats from organized crime groups; analysis of the spheres of influence of serious crimes and organized crime; analysis of aspects of the threats of organized criminal groups and areas of crime depending on the region; determination of the most threatening organized criminal groups, criminal spheres of influence depending on the region. SOCTA defines the system and model of threat assessment of organized crime and serious crimes. The main feature of this methodology is the use of indicators, which are divided into: 1) indicators of organized criminal groups; 2) indicators of the sphere of criminal activity; 3) impact indicators (Kovalchuk, Korystin, Svirydyuk, 2019).

Another program created by the United Nations administration is the goTRACE data exchange and analysis system, which helps to safely and quickly compare and match sensitive data stored in different databases of one or more agencies. "YouControl" is similar in its functionality to the creation of an effective analytical software package in Ukraine, which allows you to obtain up-to-date information about a company or an individual entrepreneur from more than 30 state registers. "Youcontrol" (and similar information resources "Clarity Project") allows you to establish: whether a person is the founder of a legal entity, whether a

natural person is an entrepreneur, as well as find out the founding data, phone number, nature of activity, presence of financial obligations, presence of criminal or administrative proceedings, motor vehicle used by the enterprise.

Combating organized crime is a priority for both law enforcement agencies of Ukraine and the state as a whole. It is important in this direction to adopt the best world experience. Implementation and use of goTRACE SOCTA will help to more accurately and qualitatively obtain and analyze information on criminal groups and find ways to counter their activities. There is no doubt that all the analytical tools described by us must be clearly formulated and effective in order to effectively use their results in the fight against organized crime.

#### 5. Conclusions

Based on the results of the research, we come to the conclusion that criminal analysis is aimed at supporting effective law enforcement activities, in particular in combating organized crime, and its results form the basis for organizing the activities of law enforcement agencies guided by intelligence analytics. The products of criminal analysis should be the basis for determining strategic and operational-tactical goals for combating and investigating crimes with an emphasis on a proactive response to an illegal event, i.e., when the activities of a law enforcement agency or its unit are guided by conclusions about the analysis of patterns and trends identified in the criminal environment. It is this approach to combating organized crime that will contribute to taking timely and effective measures regarding a problem or situation with the aim of eliminating or mitigating its consequences, will make it possible to allocate resources effectively, taking into account the spheres and directions of activity of individual criminals, organized criminal groups and the criminal environment in general.

The skillful use of criminal analysis capabilities on an ongo ing basis by law enforcement agencies and their separate units can increase both the effectiveness of the investigation and the establishment of all circumstances that must be proven in criminal proceedings, as well as raise the fight against organized crime to a qualitatively new level within the framework of national and international cooperation. Knowledge, competence and qualifications in the field of criminal analysis must be possessed by both criminal analysts and their management at all levels of management, as well as persons who carry out operational, investigative and investigative activities.

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