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CONCEPTUAL APPROACH AND FINANCIAL ASPECT OF PERFORMANCE MANAGEMENT OF A PRE-TRIAL INVESTIGATION BODIES

ABSTRACT

The study proposes the concepts of models for managing the performance of pre-trial investigation bodies using key performance indicators, as well as for administering the duration of investigative actions and material costs incurred for them. The modelled examples demonstrate the possibility of using the information that can be collected and processed in the course of applying the proposed models.

The new quality and completeness of management information make it possible to optimize the business processes of pre-trial investigation agencies and develop new approaches and solutions in the organization of investigative activities, which will result in an increase in the overall efficiency of pre-trial investigation agencies. The described investigative situations and the developed solution regarding changes in legislation prove that it is possible to optimize the duration of investigative actions by processing new management information. The example demonstrates a 9-38-fold reduction in the cost of a particular procedural action.

The study pays attention to the calculation of the cost of the investigation and the use of modern digital tools. The possibilities of using the iCase electronic criminal proceedings system in management activities are described. The author demonstrates the possibility of analyzing the business processes of investigation using a Gantt chart, which clearly shows the duration of individual investigative actions and their cost.

The research concludes that law enforcement agencies in Ukraine and other countries, primarily in the post-Soviet space, still use a performance management model based on the principles of the "stick system" - a quasi-scientific term denoting a negative characteristic of management activities focused on achieving primitive quantitative indicators rather than ensuring sustainable quality law enforcement activities. The proposed approaches are intended to raise the management activities of law enforcement agencies to a qualitatively higher level. The research raises issues that require the attention of scholars in various fields: economic, criminal law, criminal procedure, criminology, administrative, economic theory of law, etc.

Keywords: law enforcement agencies, performance management, cost management, efficiency management, productivity management, cost of crime, cost of investigation, calculation of the cost of investigative actions, evaluation of service efficiency, electronic criminal proceedings

JEL Classification: H41, H83, K14, O35

INTRODUCTION

Pre-trial investigation bodies (hereinafter referred to as PIB) are part of the law enforcement agencies charged with protecting society from crime. They act on behalf of the state without receiving payment for their services from their end users. Such services do not have a market value, are not provided in a competitive market, their cost is not crucial for the existence of the PIB, nor is their efficiency in economic terms. These circumstances prompt us to explore and seek a balance between public benefits and costs of law enforcement activities. That is the balance in the economic dimension.

Despite the existing problem and ample opportunities to study the issues of law enforcement performance management, there is a limited number of relevant scientific studies, in particular, due to the fact that the vast majority of criminal justice officials, both in practice and academia, have a law degree, and therefore focus on legal and forensic issues, rather than economic (management) ones.

This article examines the issue of managing the effectiveness of the PIBR through the prism of the productivity of investigators (detectives), as well as the cost of individual procedures carried out in their daily work. The study focuses on the way to measure productivity and financial costs by methods that may be available to a manager in the modern conditions of digital development using software solutions.

Thus, the data obtained through the proposed methods can be used by managers to optimize the work of the PIB by managing priorities, resources, improving procedures, introducing lean principles of operation, creating additional specializations and taking other management measures.

LITERATURE REVIEW

An analysis of the available scientific works on the issue of performance management of the PIB (law enforcement agencies) shows that economists have not studied this issue. The issue of performance management (effectiveness) of law enforcement agencies is usually studied by lawyers in the context of administrative law (regulatory regulation of law enforcement agencies): criminal law and criminal procedure (performance management in the sense of a quality investigation); criminology (effectiveness of law enforcement agencies in reducing crime). Also, the management of the effectiveness (efficiency) of law enforcement agencies is studied by supporters of the economic theory of law - a scientific direction of analyzing law using the methodology of economic science - which may include both lawyers and economists. At the same time, supporters of the economic theory of law mainly focus on the study of the efficiency (effectiveness) of law enforcement agencies at the macro level in the context of overall benefits and costs for society.

Economists, if they do pay attention to the effectiveness (efficiency) of law enforcement agencies in their research, it is mostly related to the overall positive impact on the economy of a region, industry, state or global economy. Within the framework of management studies related to the administration of organizations, researchers do not distinguish PIB as a research area and, at best, implicitly take it into account in a number of non-profit or governmental organizations [1-4].

The analysis of scientific publications in the Scopus search engine was carried out using two groups of key queries that were combined in the format: the main key and the additional key. As the main key, we used the English phrases that most closely correspond to the concept of performance management: "performance management" and "management of the result". As an additional search key, we used various English phrases that scholars usually use to refer to law enforcement agencies: "police", "law enforcement agencies", and "investigative bodies". It should be noted that the term "investigators bodies" is the most relevant to the topic of our study, meaning investigative or pre-trial investigation bodies. However, it is in this context that there is a small number of scientific studies, as most scholars focus on the research of law enforcement agencies in general, often equating law enforcement agencies with police.

The first stage of the analysis was carried out according to the following algorithm: on the Scopus.com website, the keywords in the article title, abstract, and keywords were searched. In the keywords field, one of the main search keywords is indicated in turn: "performance management" and "result management". Further, in the results obtained, an additional search was carried out using additional search terms in turn: "police", "law enforcement agencies", and "investigative bodies". The results were limited to the following categories: Social Science; Business, Management and Accounting; Economics, Econometrics and Finance. The results were also recorded in terms of the total number of published scientific papers and in terms of scientific papers for the last 4 years (since 2019). The statistical result is shown in Table 1.

Table 1. Results of searching for scientific articles in the Scopus search engine.

Additional key:	No additional key required		Police		Law enforcement agencies		Investigators bodies	
	For the entire time	From 2019	For the entire time	From 2019	For the entire time	From 2019	For the entire time	From 2019
Performance management	559 674	190 660	3 324	1 312	1 016	388	261	119
▪ Social science	58 053	22 479	1 256	513	408	161	21	10
▪ Business, management and accounting	83 968	25 948	1 059	429	431	160	16	10
▪ Economics, econometrics and finance	23 341	8 678	286	123	209	93	5	3
Management of the result	1 797 913	656 591	9 212	4 027	2 291	958	2 106	925
▪ Social science	165 974	72 683	2 904	1 319	815	343	76	31
▪ Business, management and accounting	129 505	45 231	1 491	660	718	301	17	15
▪ Economics, econometrics and finance	45 302	18 685	382	177	429	185	0	0

The results of this analysis indicate that despite the existence of a large number of studies on performance management ("productivity management"; "efficiency management"), their number in relation to performance management of law enforcement agencies is rather limited, and in the context of the activities of the PIB this number is insignificant.

Thus, the results of the study of scientific articles by national and foreign scholars prove the statement that the issue of performance management of the PIB has not been properly researched and has prospects for the development of scientific thought. In this paper, we propose to reveal the productivity and financial aspects as constituent elements of the performance management of the PIB.

AIMS AND OBJECTIVES

The aim of the research is to study the ways of managing the performance of the PIB through the prism of investigators' productivity and the cost of investigative actions and to suggest practical methods and tools for performance management. The objective of the study is:

- to analyze and summarize the developed approaches to performance management of the PIB;
- to develop a concept of performance management based on the collection, processing and analysis of data on the productivity of investigators and the cost of pre-trial investigation;
- to model decision-making situations based on such management information.

METHODS

In the course of the research, general scientific and special methods of scientific knowledge were used, in particular: abstraction and concretization; historical method; content analysis; induction and deduction; collection and processing of information; analysis and synthesis; data clustering; modelling; forecasting; method of expert opinions, etc. The article uses the methods of content analysis, induction and deduction, analysis and synthesis, and the historical method to analyse the existing knowledge on performance management of law enforcement agencies, as well as current trends in the development of scientific thought.

In addition to the above methods, clustering and forecasting methods were used to develop the criteria for the effectiveness of management activities, which will be further used to form the concept of performance management of the PIB.

To develop specific approaches to the administration, collection, processing and analysis of relevant information about the activities of investigators and the costs of pre-trial investigation, as well as to build examples of their application, the author uses modelling and expert evaluation methods.

Processing, analysis of information, and visualization of results were carried out using Microsoft Excel software (2010 standard). The modelling of investigators' work planning was carried out using the information and telecommunication system of pre-trial investigation "eCase Management System" (eCase Management System. Test Environment).

RESULTS

Today, law enforcement agencies in Ukraine and most foreign countries use a performance management system that is considered outdated and ineffective. Domestic PIBs try to manage results based on statistical indicators (formal approach, "stick system"), as well as through opportunistic behaviour by responding to the demands of society, which is usually represented by public figures, politicians, media representatives, etc.

As Bochkovi, O. notes in his research: "Instead of recognizing the problem and actively seeking ways to solve it, law enforcement agencies report in good faith on high performance based on the principles of the "stick system", professing formalism in assessing performance based on biased data, while reducing the effectiveness of investigating offences in the face of a difficult personnel crisis and martial law" [1].

Summarizing the opinions of such scholars as Dubas R.G., Serdiuk V.P., Serdiuk E.V., Cherniaiev Y.B., Mazurenko V.P., Melnychuk T.V., we can conclude that law enforcement agencies should be guided by the goal of achieving the greatest economic effect for society from their activities. At the same time, scholars note that such an economic effect cannot be reduced to a simple determination of the difference between the costs of law enforcement agencies and the amount of money returned to victims as a result of their work. It is necessary to develop reliable econometric methods to determine the social and economic effect of law enforcement activities, which would take into account the benefits of crime prevention, improving the investment climate in the country, reducing insurance costs for legal and security risks in public relations, etc. [2-5].

At the same time, the vast majority of law scholars point out that performance should be measured not by econometrics, but by qualitative indicators in the context of compliance with the basic standards of pre-trial investigation. In particular, Fedoriv, O. in his research "European standards of pre-trial investigation efficiency" points out the need to organize pre-trial investigation with a focus on the following qualitative indicators: publicity and reasonable speed of investigation; thoroughness of investigation and safety of evidence; adequacy of investigation and its completeness; independence and impartiality of law enforcement officers. According to Fedoriv, O., performance can be assessed by quantitative indicators and prospectivity (responsible attitude to one's duties under the specified standards) [6].

The authors of the "Standards of Pre-trial Investigation" also share the idea of evaluation through compliance with the standards systematized in the publication of the same name [7]. Among a number of criteria that characterize the quality of investigators' work, the need to comply with the standard of efficiency is indicated, which does not directly follow the norms of the criminal procedure law but is intended to streamline existing practices and approaches to organizing the pre-trial investigation process, to target the spending of limited state resources on priority areas of investigation for society. In addition, this standard focuses on the restoration of the violated rights of the victim and compensation for damages caused by a criminal offence.

The efficiency standard has the following components: planning, timeliness, and rationality. Rationality is a component of the standard that guides the pre-trial investigation body to maintain a balance between the social significance of the pre-trial investigation result and the expenditure of resources for such an investigation. Such a balance should be ensured both in general in relation to criminal proceedings and separately to investigative actions aimed at collecting evidence in these criminal proceedings [7].

Thus, at the same time, there is a problem of ineffective performance management due to the use of the "stick system" - a rudiment of the Soviet management system, and the obligation of law enforcement agencies to focus on new European standards of investigation efficiency, which is a complex concept.

This study proposes to consider several approaches to performance management that can be applied at the level of operational management. However, it is necessary to briefly outline the necessary foundations of strategic performance management, since the achievement of strategic goals can meet the needs of society for its safe existence, and operational goals (tasks) should be aimed at achieving strategic goals in the long term.

Strategic and operational management differ in terms of requirements for control and assessment of the consequences of management actions. The effectiveness of adopted strategies is much more difficult to assess than the results of operational management. The consequences of strategic decisions can only be fully assessed over time when it becomes difficult

and sometimes impossible to identify the degree of influence of certain factors on the strategy implementation process. The consequences of operational management, as a rule, are not separated by a large period of time from the decision-making, and therefore the reasons, for example, failure to fulfil tasks, are quite easy to analyze [8].

The main tasks of criminal law, criminal procedure, as well as each of the specialized laws, conceptually define their strategic goals. At the same time, it is worth noting the existing gap in management activities, which is the perception of the main task - protection of society and the state from crime - as a strategic goal. Unlike the task or mission of an organization, which can be permanent and abstract, a strategic goal must be specifically defined, achievable in the perspective of the forecast period and measurable in order to provide a proper assessment of the efficiency and effectiveness of the organization. In such circumstances, it is obvious that the strategic goal cannot be formulated as the protection of society and the state from crime, although it will be in this context [9].

From the main task, the main (strategic) goal can be formulated, which will be specific, measurable, realistic and time-bound. For example, the goal can be formulated as a 20% reduction in the crime rate in a particular area over 5 years. Of course, for such a goal to be measurable, there must be relevant metrics for assessing the current state of crime and evaluating its dynamics [10].

Thus, one of the main strategic goals of law enforcement agencies may be to reduce the crime rate by A per cent over a period of time T. In this study, we take this strategic goal as a basis to provide a context for the formation of performance management approaches at the operational level.

In order to achieve this strategic goal, it is necessary to ensure the achievement of operational goals to increase the factors that affect the reduction of crime. It is accepted that the strategic goals of a particular pre-trial investigation agency should be determined by the agency itself using a strategic analysis of the conditions in which the organization exists and operates. However, as stated above, the strategic goals of such an agency will exist in the context of the permanent strategic goal of reducing crime. Taking the developed strategic goal as a basis, let us consider the following approaches to performance management at the operational level:

- performance management by key performance indicators (KPIs);
- performance management based on the analysis of business processes, information on time and material costs of the investigation.

Performance management by key performance indicators

The main idea is to define the ultimate goals that the pre-trial investigation body should achieve. Break them down into components in the form of lower-order goals or tasks. Ideally, the entire cascade of goals and objectives should meet the criteria of SMART goals, i.e., be specific, measurable, achievable, relevant and time-bound. Such goals should be combined in a systematic interconnection.

Each pre-trial investigation agency, as an organization, has to go its own way from defining and setting strategic goals to developing its own KPI system. At the same time, in order to demonstrate the applied functionality of the proposed methodology, this article provides an example of developing a KPI system for the National Anti-Corruption Bureau of Ukraine as one of the possible models of such a system based on the above operational goals.

Since 2016, the National Anti-Corruption Bureau of Ukraine, at the level of one of the detective departments, which has the status of, has piloted a model for evaluating the performance of detectives based on the key performance indicators listed in Table 2.

Table 2. The system of points and coefficients used to evaluate the detective department.	
Performance.	Points
Active (leading) participation in the investigation of criminal proceedings of low complexity	1
Active (leading) participation in the investigation of criminal proceedings of high complexity	2
Technical work in criminal proceedings	0,5
Registration of low-complexity proceedings based on own developments	2
Registration of high complexity proceedings based on own developments	4
Notification of suspicion to a person	12
Ensuring compensation for damages (seizure of property or funds)	2
Sending criminal proceedings to court	12
Funds recovery or confiscation of property in criminal proceedings	8

Due to the differential complexity and weight of the indicators, they cannot be compared with each other without appropriate adjustment. This adjustment is made through the use of scores. The use of points for achieving key performance indicators has three main functions:

- measuring - the function is designed to provide the ability to measure the productivity (effectiveness) of the detective;
- compensatory - the function is designed to compensate for the difference in the weight and complexity of each performance indicator of detectives' service activities;
- stimulating (motivating) - the function is aimed at forming added value for those performance indicators that are a priority, based on its explicit or implicit strategy.

Scores are used as a tool to bring the weight of various indicators into the appropriate ratio, which serves as indicators of the degree of achievement of a higher operational or strategic goal.

For the convenience of administering the detectives' performance and fast data processing, we used Microsoft Excel software with the use of scoring formulas, taking into account the conditions met for individual KPIs.

The level of performance can be visualized (Figure 1 and Figure 2). Performance points for each detective are accumulated over a period of 2 years, but the assessment is carried out on a monthly basis. The first column in the diagram (Figure 1) indicates the current number of points of the detective, the second - for the previous month.

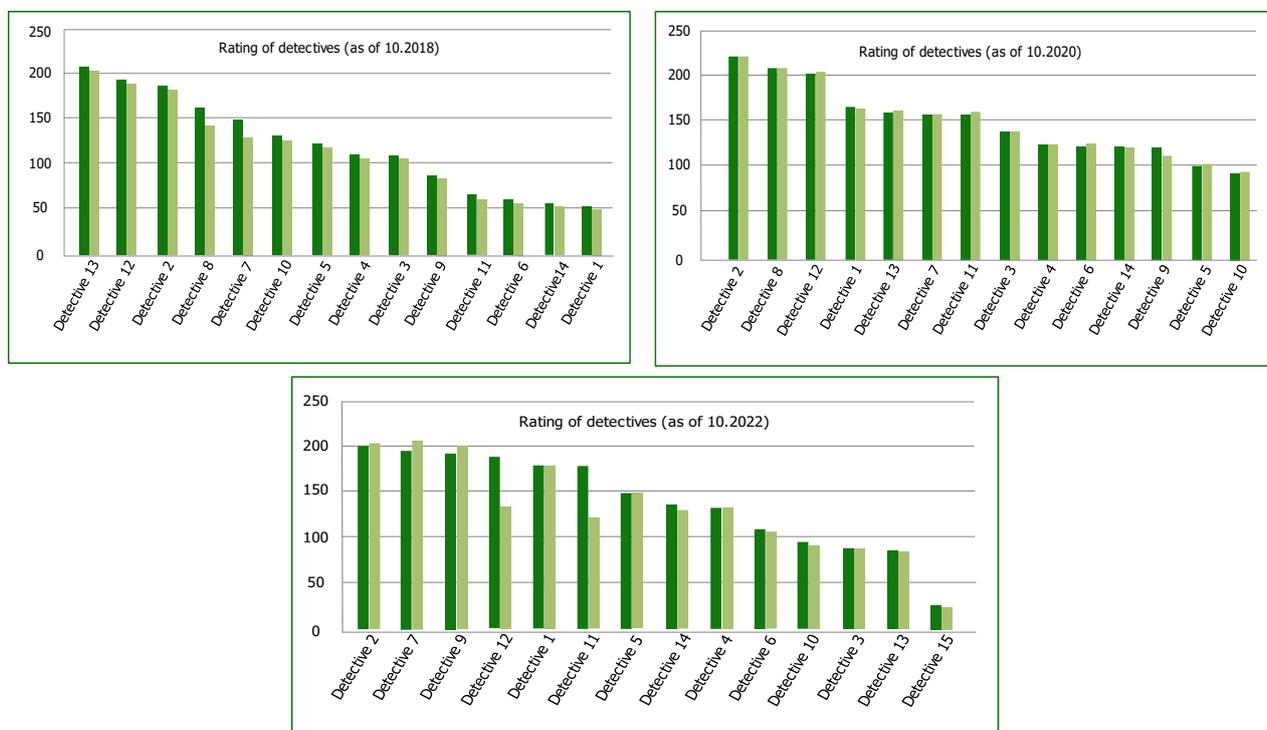


Figure 1. An example of a performance chart of the department's detectives as of 2018, 2020 and 2022.

The above diagram (Figure 2) allows to track the performance of each particular detective or group of detectives for a certain period. Unlike the previous charts, which show the accumulated performance points for 24 months, this one shows the number of points received for work in the context of each month of the period selected for analysis. Such information is unique and valuable from both a managerial and scientific point of view.

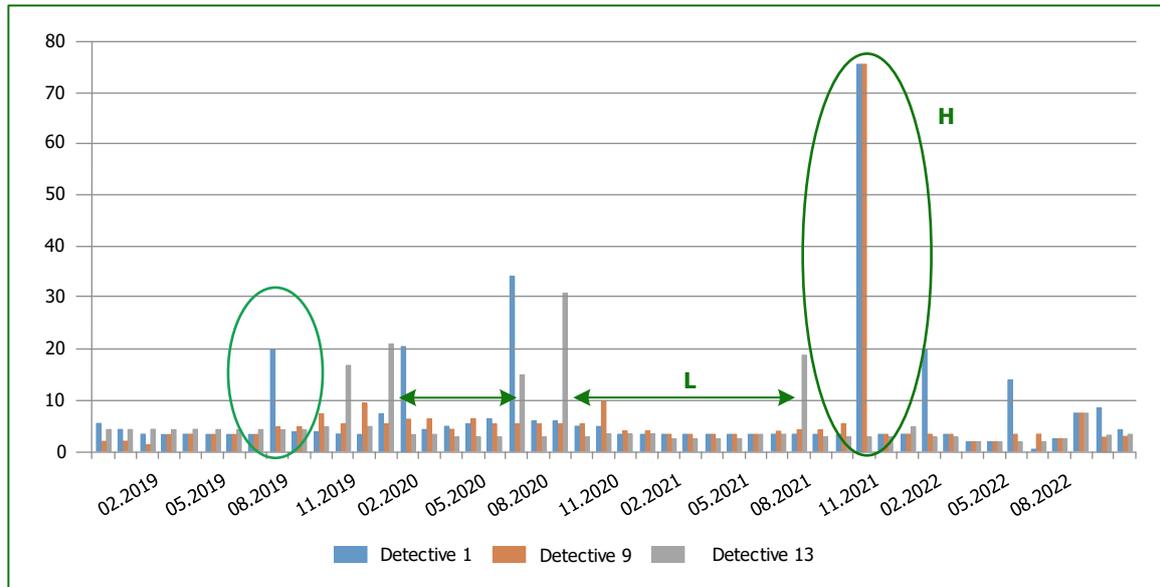


Figure 2. Analysis of the performance of the department's detectives for the period from 01.12.2018 to 31.08.2022 on the example of 3 detectives.

In the example shown above, the value of L reflects the period (frequency) between detectives achieving significant results in their work. In the context of key performance indicators, such significant results are notifications of suspicion to persons against whom sufficient evidence of their involvement in a crime has been collected; seizure of assets to ensure compensation for damages from a crime, confiscation or special confiscation; recovery of assets to the state or compensation for damages to the victim; submission of an indictment to court, etc.

The value of H reflects the significance of the result that is achieved. In this case, it can be the severity of the crimes for which sufficient evidence has been collected to serve a notice of suspicion on a person; the number of suspects; the value of seized assets; the number of articles of the criminal law under which the case was sent to court, etc.

Performance management based on the analysis of business processes, information on time and material costs of the investigation

According to Drozd, V., the state bears the costs of pre-trial investigation of crimes committed under its jurisdiction. One of the tasks of the state is to minimize such costs and ensure their full reimbursement by the persons guilty of a criminal offence. The task of scholars is to find optimal mechanisms for rationalizing procedural costs and ensuring their reimbursement [11].

There is no single definition among scholars of what should be attributed to procedural costs. The position of some, in particular, Kuznetsov O., and Loboiko L., suggests that procedural costs are all material costs incurred by the state to combat crime in the country, including the costs of maintaining law enforcement and judicial authorities, as well as ensuring their functioning. The position of others, in particular, Nazarov, V.V., Demidov, V.M., is that procedural costs are only those costs that are provided by law as reimbursable. The rest of the costs associated with the pre-trial investigation are not procedural, as they are regulated by other provisions of the law [12; 13].

Nevertheless, it remains undisputed that reducing the cost of the investigation is one of the strategic and, accordingly, operational goals.

In order to manage costs, it is necessary to have reliable tools for measuring them. Currently, no such tools are available.

This study proposes to use the available options, including software solutions, to manage investigation costs. It is proposed that each operational ("task") should have a record card, which, if necessary, should contain additional information about the task or the progress of its implementation. The use of record cards makes it possible to collect the information necessary for the manager. In particular, it is advisable to record:

- the start time of the task and the time of its completion (the total time of the task);
- net operating time of the task;

- direct financial costs incurred in connection with the task.

In this context, an example of the functioning of the electronic criminal proceedings system of the information and telecommunication system of pre-trial investigation "information and analytical system eCase" (hereinafter - iCase), which was put into commercial operation by the National Anti-Corruption Bureau of Ukraine on December 15, 2021, is given [14].

The eCase functionality provides for strategic and operational planning of the pre-trial investigation. The tasks defined in strategic planning are automatically reflected by the system in operational planning and are marked with the "main task" tag.

Operational planning is based on the strategic plan, if available, but is not limited to it. Operational planning is carried out by the senior investigator of the investigation team, usually with a focus on short-term tasks (from 1 week to 6 months).

Each operational task has a record card with information about it, the dynamics of its implementation, as well as subtasks that need to be completed to achieve the main goal.

Based on the example of the iCase system used by the pre-trial investigation body, it is advisable to develop recommendations for improving the system. Improved functionality would allow collecting and analyzing the necessary data to assess the productivity of detectives and the financial costs of the investigation.

Such data is an important empirical material that is difficult to collect for further analysis of business processes and econometric evaluation of law enforcement activities. Collecting and processing such data will allow to increase the level of accuracy of activity planning, assess the resources spent on achieving certain goals, the cost of investigating various types of crimes, optimize business processes of investigation and increase the efficiency of procedures.

Administering the total time required to complete tasks by investigators will enable managers to assess which tasks take the most time, which procedures are most costly, and where there are areas for optimizing work through various management decisions. Information on the average duration of various investigative actions will allow for more accurate planning of investigators' work and forecasting of its results.

Administering direct financial costs of performing tasks will increase the accuracy of estimating the cost of conducting various investigative actions under different conditions. Direct costs should include any financial expenses related to the performance of the task, in particular, the cost of sending correspondence, travel to the place of the investigative action; consumables (CDs, DVDs, memory cards, safe packages, special boxes, etc.); services of a specialist, expert and other expenses that may be incurred by investigators in connection with the direct performance of the task.

The availability of such information will enable the manager to manage resources more efficiently, look for ways to save them and optimize procedures

However, administering only the direct financial costs of investigative actions will not allow for a full assessment of their value. To do this, it is necessary to combine direct financial costs with the net operational time of the task, which should be measured in man-hours. We propose to measure the cost of man-hours using two approaches:

Approach A: average cost per person-hour calculated from the sum of the remuneration of persons involved in the investigation.

Approach B: average cost per man-hour calculated in relation to the total cost of maintenance. To calculate such costs, data is used not only on the salaries of employees directly involved in the investigation, but also on the salaries of administrative staff, as well as on the current costs of supporting their activities. This method of calculation is complex and requires the development of a separate methodology. However, with this approach, the cost of investigative actions will be more accurate.

A number of scholars in the field of criminal justice raise the issue of evaluating the work of the legal system and its components, including law enforcement agencies, in terms of benefits and costs to society [3-5; 13]. Although there are many studies on this topic, the cost analysis is significantly complicated by the lack of available empirical data. A performance management system for the National Bureau's detectives based on the data collected in the iCase system could provide relevant data.

To this end, the following recommendations are offered to improve the iCase planning functionality: fields should be added to the task record card to record:

- the calendar time of the start of the task and the time of its completion in the format of calendar days;
- the net procedural (working) time spent on the task in the format of man-hours;

- direct financial costs in the format of the national currency with the possibility to attach documents confirming the costs or a description of the direct financial costs incurred.

An example of the concept of calculating the cost of investigative actions using the data proposed for administration, subject to their aggregation and analysis, is shown in Table 3.

Table 3. Conceptual approach to calculating the cost of individual investigative actions.		
Type of investigative action		
Brief description of the execution process	Estimated costs of man-hours	Typical consumables and other direct financial costs
<i>Interrogation of a person</i>		
Interrogation of a person is usually conducted by 1-2 investigators with the possibility of involving a specialist. The interrogation can last from 1 to 8 hours. The interrogation may be preceded by the investigator's preparation for it, usually from 1 to 3 hours.	From 1 to 16. Arithmetic mean: 8,5	Memory card for storing video and audio files of the interrogation; Expenses for the services of a specialist (psychologist, teacher, translator, auditor).
<i>Confiscation of documents</i>		
Documents are confiscated on the basis of a decision of the investigating judge at their location. When the documents are seized, the investigator draws up an inventory of the documents and leaves it with the owner. Seizure of documents is often associated with the investigator's business trip to another locality.	From 1 to 8. Arithmetic mean: 4,5	Travel expenses to the place of seizure of documents
<i>Search of premises</i>		
The search of the premises is carried out on the basis of a decision of the investigating judge. As a rule, the search is preceded by a thorough preparation of the investigative team for the search (from 1 to 12 man-hours). The actual search of the premises can last on average 4 to 12 hours, but there are cases when the duration of the investigation exceeds 24 hours. The minimum number of investigators involved in a search is 2 people, and the optimal number is 3-5. There are cases of the involvement of large groups of investigators and operatives to search premises, as well as the involvement of specialists, the use of special equipment, etc.	From 8 to 60. Arithmetic mean: 34	Memory cards for storing video files of the search; Safe packages for packing and storing material evidence; Travel expenses (expenses for the use of vehicles); Expenses for the services of specialists (breaking locks; using special equipment to search for traces of crime or hidden evidence; examination of computer equipment, etc.); travel expenses
<i>Drawing up a notice of suspicion of a person of committing a criminal offence</i>		
Drawing up a notice of suspicion is a professional creative process of the investigator, which consists of formulating a text message of the nature of the suspicion of a person who may be involved in a crime. The process of preparing a notice of suspicion is an investigator's office activity that involves processing criminal proceedings and systematic communication with other investigators who are part of the investigation team, as well as with the prosecutor.	The time taken to prepare a notice of suspicion is highly volatile and depends on the complexity of the investigation. The time spent can be indirectly determined by the length of the notice of suspicion. This volume can range from 3 to 100 pages on average.	From 8 to 120. Arithmetic mean: 64

It should be noted that the data presented in the table are not the results of empirical research, but are based solely on the author's professional experience, which is conditioned by the context of performing tasks in the National Anti-Corruption Bureau of Ukraine and does not reflect the general set of data on the time spent on investigative actions by investigators of various agencies. In such circumstances, the data can be considered indicative or fictitious. However, the purpose of this study is not to calculate the relevant indicators of time spent or the cost of certain investigative actions. In this case, the fictitious (indicative) data is used to develop a performance management model and to demonstrate the possibility of using the data that will be collected as a result of using the proposed model.

Thus, based on the above-mentioned indicative (fictitious) data, the following calculations of the cost of investigative actions can be proposed:

according to approach A: $CIA(a) = T \cdot AvSal + DirFinC$;

by approach B: $CAC(b) = T \cdot AvBdj$,

where T is the net procedural time spent by the investigator(s) on the investigative (procedural) action, measured in man-hours; $AvSal$ is the average salary of an investigator in the relevant pre-trial investigation body; $DirFinC$ - direct financial (material) costs of conducting the relevant investigative (procedural) action; $AvBdj$ - average costs of providing work of one investigator, calculated by dividing total current costs, including depreciation, by the number of working investigators in the relevant period.

As noted above, for the most reliable determination of the effectiveness of law enforcement agencies, and in the case of the subject of this study, pre-trial investigation agencies, it is necessary to compare the public benefits and costs of their activities. For this purpose, another component should be added to approach B - the costs of other persons related to the activities of the law enforcement agencies. In formulaic terms, such costs should be expressed as $AvSal(other) + AvBdj(other)$, where $AvSal(other)$ is the average salary of employees involved in performing tasks for the purposes of the pre-trial investigation. Such employees may be judges, other court officials, lawyers, paralegals, employees of enterprises, institutions, or organizations that produce documents to respond to inquiries, or who are involved in conducting investigative actions, such as interrogation, search, inspection, etc.

$DirFinCs$ (other) are direct financial expenses of other persons related to the conduct of investigative actions if they are not included in the reimbursable procedural expenses and therefore included in the $DirFinCs$ or $AvBdj$ element.

Thus, there are three levels of calculation of pre-trial investigation costs by pre-trial investigation authorities:

First level: $CIA(a) = T * AvSal + DirFinC$, which characterizes the direct costs of conducting a pre-trial investigation of criminal proceedings;

Second level: $CIA(b) = T * AvBdj$, which characterizes the total costs of pre-trial investigation of criminal proceedings;

Third level: $CIA(c) = T * AvBdj + AvSal(other) + DirFinCs$ (other), which characterizes the total public costs of pre-trial investigation.

The use of the iCase system with the filling in of the investigative (procedural) action card will make it possible to organize management information and carry out further analysis. The analysis of information is proposed to be carried out, in particular, using a Gantt chart, which can have the following visualization (Figure 3).

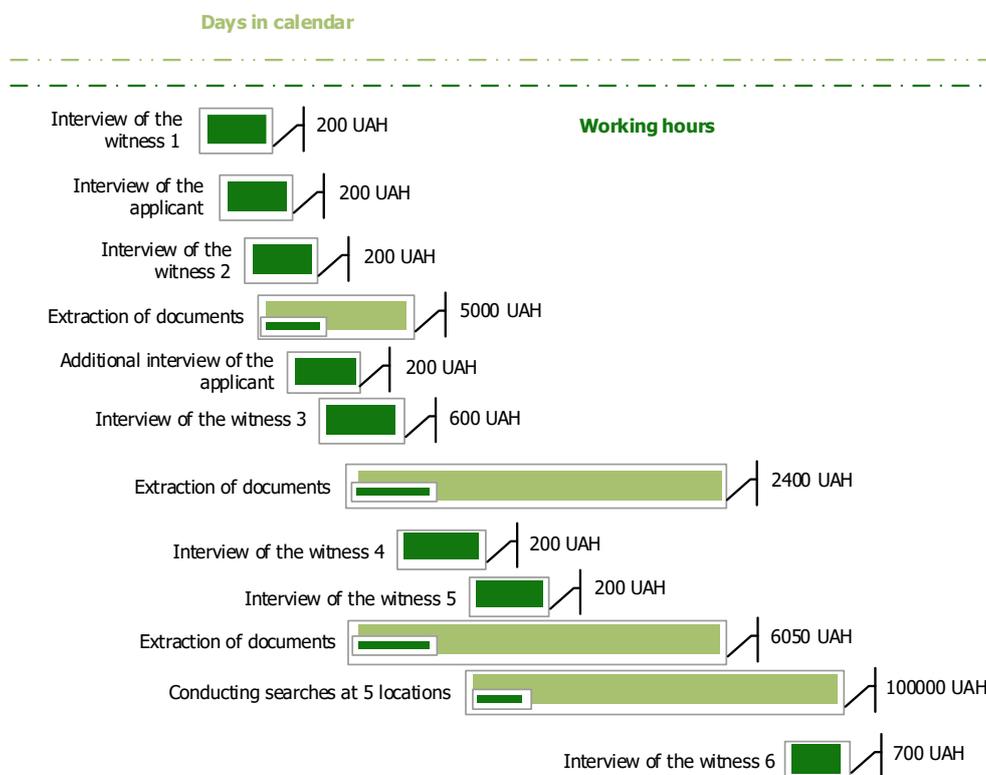


Figure 3. An example of an analysis of the costs of calendar days, man-hours and material resources for the investigation in the context of individual investigative actions. Note: 1 - calendar duration of the investigative (procedural) action; 2 - duration of the investigative (procedural) action in man-hours; 3 - direct financial costs incurred in connection with the investigative (procedural) action.

Thus, the accumulated and aggregated information resulting from the use of the proposed performance management system will make it possible to optimize the work of investigators and increase efficiency.

Based on information on the calendar duration of investigative actions, it is possible to improve the quality of investigation planning, set deadlines more accurately and control the allocation and use of resources.

Based on the information on man-hours spent on investigative actions, two main parameters can be regulated (optimized): the distribution of forces and costs for conducting various types of investigative actions.

Based on the information on direct financial costs for conducting various types of investigative actions, the main parameter - the cost of conducting various types of investigative actions - can be optimized.

It should be noted that, depending on the method of determining the cost per man-hour, the cost of investigative actions will be calculated with or without direct financial costs. Thus, in the case of calculating the cost of an investigator's man-hour according to the above approach A, direct financial costs incurred should be taken into account.

In the case of calculating the cost of an investigator's man-hour according to the above approach B, the direct costs incurred should not be added to the cost of investigative actions, since they are already included in the cost of the man-hour itself.

Using approaches, A and B to calculate the cost of investigative actions are not mutually exclusive or alternative to each other. These approaches are complementary, the results of which can be used to achieve different goals. The calculation based on Approach A is more suitable for finding ways to optimize costs by simplifying procedures, properly allocating resources, etc. The calculation based on approach B is more suitable for reflecting the true (full) cost of the investigation in the context of the public costs of law enforcement.

As noted, the main indicator for calculating the cost of investigative actions is the cost of man-hours for their conduct and the cost of such man-hours. To do this, let us calculate one of the possible costs of a man-hour on the example of three law enforcement agencies.

For the purpose of calculations, we will choose the model of an investigator (detective) with the following characteristics: works in the central administration; has more than 5 years of experience; access to state secrets of the highest level; the special rank of captain; does not have a degree; receives a bonus of 15 per cent (if any).

The salary components are determined on the basis of relevant laws and regulations [15; 16; 17].

The subsistence level for able-bodied persons as of January 1, 2023 is UAH 2684.

Therefore, the salary of a detective of the National Anti-Corruption Bureau of Ukraine is:

$$2684 * 19 * 1.2 * (1 + 0.2 + 0.1) + 1800 \text{ UAH} = 81354 \text{ UAH.}$$

The salary of an investigator of the State Bureau of Investigation is:

$$2684 * 20 * (1 + 0.15 + 0.1 + 0.15) + 1800 = 76952 \text{ UAH.}$$

The salary of an investigator of the Bureau of Economic Security:

$$2684 * 21 * (1 + 0.3 + 0.1 + 0.15) + 1800 = 89164 \text{ UAH.}$$

Based on 22 working days per month and a 40-hour work week (8-hour working day), the cost per man-hour is as follows:

- detective of the National Anti-Corruption Bureau of Ukraine - 462 UAH;
- investigator of the State Bureau of Investigation - 437 UAH;
- investigator of the Bureau of Economic Security - 506 UAH.

Based on the determined cost of a man-hour of investigators from different law enforcement agencies, we will determine the estimated cost of individual investigative actions ($T * AvSal$).

Table 4. An example of calculating the cost of individual investigative actions in the context of three different ones.

Investigative action	Average man-hours (fictitious)	Cost of investigative action if conducted, UAH		
		NABU detective	SBI detective	BES detective
Interrogation of a person	8.5	3927	3714	4301
Confiscation of documents	4.5	2079	1966	2277
Search of the premises	34	15708	14858	17204
Drawing up a notice of suspicion	64	29568	27968	32384

The specified calculations are given for the purpose of visual demonstration of the application of the approach to performance management in the financial aspect (economic efficiency), however, relevant management data can be available only as a result of the application of the proposed approach in practical activities. In particular, due to the maintenance of task cards with the function of administration of man-hour costs and direct financial costs, as well as construction and analysis of data using a Gantt chart.

At the same time, on the example of the already given approximate (fictitious) data on the cost of certain types of investigative actions, it is possible to give specific practical calculations, with the help of which a proposal to amend the legislation regarding the procedure for performing such a procedural action as the implementation of temporary access to things and documents

We compare several simulated situations regarding temporary access to documents (removal). It should be noted that due to the requirements of legislation and court practice, a detective who has been granted permission for temporary access to documents must directly carry out such temporary access (seizure) to documents from their owner. Such a procedural action cannot be delegated to another investigator or operative, nor can it be implemented by sending documents by mail.

Situation 1. A detective working in the city of Kyiv needs to have temporary access to banking documents. The bank is located in the city of Kyiv. We assume that the detective spends up to 4.5 hours travelling to the place of the procedural action, familiarizing himself with the procedure for extracting the relevant documents, and returning up to 4.5 hours. Thus, the cost of the procedural action – the withdrawal of documents – is estimated to be UAH 2,079 according to A's approach.

Situation 2. A detective working in the city of Kyiv needs to have temporary access to banking documents. The bank is located in the city of Chernivtsi. The detective goes on a business trip to the city of Chernivtsi, spending 2 working days (16 working hours), as well as paying expenses for travel by train Kyiv - Chernivtsi - Kyiv in the amount of UAH 800 and overnight stay in the city of Chernivtsi in the amount of UAH 600. Thus, the cost of the procedural action – withdrawal of documents – is estimated at UAH 8,792.

Therefore, in the practical situations described above, the cost of the procedural action is in the range from UAH 2,079 to UAH 8,792.

Amendments to the Criminal Procedure Code of Ukraine in terms of the possibility of seizing documents by sending them by mail, which will require the investigator (detective) only to receive the sent documents from the document management employee - a potential waste of time up to 30 minutes - will potentially reduce the cost of such a procedural action to UAH 231, i.e., a 9-38-fold reduction in costs (costs of criminal proceedings) for just one business process. The collection, processing and analysis of reliable data on the costs of conducting a pre-trial investigation will enable criminal justice managers to make effective decisions regarding the optimization of business processes, which will result in an increase in the effectiveness of law enforcement agencies in a broad context.

DISCUSSION

The study notes that in order to ensure the transition of the PIB performance management from the "stick system", it is necessary to introduce a comprehensive performance management model that will include components of monitoring the achievement of key performance indicators by investigators and administration of the duration and costs of investigative actions. Despite the fact that performance management based on key performance indicators has been used for a long time in the business environment, the practitioners of the PIB see the introduction of a system of key performance indicators as the same "stick system" in a modernised form.

While disagreeing with the categorical nature of such conclusions, we consider it appropriate to point out that the key performance indicator-based performance management system cannot function in isolation or in the absence of strategic goals of the organisation and should function not only at the operational level of management but also at the strategic level. We position the component of performance management based on key performance indicators as a separate element of a holistic system, which should also include such elements as administration of investigative costs, management of staff development and training, quality management of pre-trial investigation, and leadership.

Among the trends in scientific thought on improving the performance management of law enforcement agencies is the emergence of the idea of introducing a balanced scorecard (BSC), which is essentially a developed approach to the use of key performance indicators. A balanced scorecard is a strategic planning and management tool used to measure the performance of an organisation. Such a system may include four components: training and development of personnel; improvement of business processes; achievement of key performance indicators (KPIs); and financial indicators. In our opinion, the development and implementation of a balanced system of indicators in the activities of law enforcement agencies is the next sequential (evolutionary) step in the development of the management practice of law enforcement officers, but such a step should be preceded by the implementation at the level of operational management of a system of key performance indicators. This approach will ensure the consistency of implementation of changes in the management activities of law enforcement agencies and will protect against the occurrence of excessive organizational crises.

CONCLUSIONS

In the course of the study, based on the positions of a number of scholars, we started with the fact that law enforcement agencies of Ukraine and other states, primarily post-Soviet ones, use an inefficient performance management system, which has received a quasi-scientific definition of a "stick system". The essence of this model is to control limited characteristics of the output by quantitative indicators - cases brought to court with priority given to serious and especially serious crimes. Such a system is a vestige of the Soviet approach to management, which was based on a centrally planned approach to managing the national economy. Scholars identify the main drawbacks of the "stick system" as a focus on quantity rather than quality; lack of a systematic approach to investigations; use of procedural opportunities to register separate criminal proceedings or separate them in order to artificially increase quantitative indicators.

Another negative manifestation of the existing approach to performance management of the RIBs identified in the course of the study is the absence of a developed strategy aimed at fulfilling the main task (mission) of law enforcement agencies. This is not to deny the fact that the RABs have relevant strategies, but such strategies are not formalised and are not publicised either internally or externally. As a rule, such strategies are implicit and focus on the "stick system" in combination with opportunistic tactics of the managers of the RSOs to meet the demands of political and public figures.

The study shows that it is possible to transform management activities in pre-trial investigation agencies to a higher level, in particular, by extrapolating the best management practices from business organisations, as well as by using digitalisation tools for management processes, collection and processing of relevant information.

We propose to build a system of key performance indicators, which will take into account qualitative and quantitative indicators of the work of investigators and investigative units, as separate elements of an integrated system of PIB performance management. By itself, the qualitative and quantitative indicators approach can partially offset the negative effects of the current "stick system", increasing the value of achieving significant results in the fight against crime. However, it is noted that the KPI system can be applied only for operational management and should be based on strategic goals - it is under such conditions that a higher level of management activity will be achieved.

Another element of the holistic system of the PIB performance management is the administration of the duration of investigative actions and the time and material costs incurred for them with the aim of further managing these indicators: optimising processes; revising procedures; allocating resources by priorities; focusing on the points of greatest efficiency.

The modelled examples demonstrate the practicality of applying the proposed elements of the system for managing the performance of the PIB at various levels - from methodological analysis of business processes with a view to optimising them to changes in the legislation regulating the activities of law enforcement agencies. These examples are not exhaustive, as their main idea is to demonstrate an important feature of the proposed approaches - the provision of reliable management information on the basis of which informed management decisions can be made.

It should be noted that such information should not only be available to law enforcement managers (internal use), but also be accessible to the public. Publicity of information on the productivity of investigators and the cost of investigations will allow citizens to exercise better public control over the activities of law enforcement agencies, and the scientific

community to conduct in-depth empirical econometric studies and offer better solutions for the development of the system of performance management of the PIBs.

At the same time, there was no focus on the quality management of investigations through the prism of pre-trial investigation standards, as well as completeness, objectivity and comprehensiveness, ensuring sound procedural decisions as the end product of the investigative bodies' activities. Such a component should definitely be implemented in the overall system of performance management of the PIB, taking into account the role of the entities directly involved in quality control, such as the investigator, prosecutor, head of the PIB, head of the prosecutor's office, investigating judge and court. However, the issue of quality, in its deepest sense, is the task of scholars in the field of criminal law and criminal procedure.

In this study, we propose the development and application of a system for managing the performance of the pre-trial investigation using key performance indicators, as well as by administering the duration of investigative actions and material costs incurred in connection with their conduct. At the same time, the idea of combining the proposed elements into a single holistic system of pre-trial investigation performance management based on the strategic goals of the law enforcement agency is subject to further research and development. Also, the issues of regulatory support for the functioning of the proposed system of performance management of the IAB, building business processes of such a system, and developing decisions that can be made by managers using the information provided by the proposed system remain unresolved. The issues of developing approaches to calculating the public costs of law enforcement agencies in the context of analysing the benefits and costs of their activities to society also require further research.

ADDITIONAL INFORMATION

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КОНЦЕПТУАЛЬНИЙ ПІДХІД І ФІНАНСОВИЙ АСПЕКТ УПРАВЛІННЯ РЕЗУЛЬТАТИВНІСТЮ ДІЯЛЬНОСТІ ОРГАНІВ ДОСУДОВОГО РОЗСЛІДУВАННЯ

У дослідженні запропоновані концепції моделей управління результативністю діяльності органів досудового розслідування з використанням ключових показників ефективності, а також адміністрування тривалості слідчих дій і понесених на них матеріальних витрат. На змодельованих прикладах продемонстровано можливість використання інформації, яка може бути зібрана та оброблена в процесі застосування запропонованих моделей.

Нова якість і повнота управлінської інформації дає можливість оптимізувати бізнес-процеси органів досудового розслідування, виробити нові підходи й рішення в організації слідчої діяльності, наслідком чого стане збільшення загальної ефективності органів досудового розслідування. Описані слідчі ситуації та вироблене рішення щодо змін у законодавстві доводить можливість оптимізації тривалості проведення слідчих дій за рахунок обробки нової управлінської інформації. На прикладі продемонстровано скорочення витрат на проведення окремої процесуальної дії в 9-38 разів.

У дослідженні приділено увагу розрахунку вартості слідства й використанню сучасних диджитал-інструментів. Описані можливості застосування системи електронного кримінального провадження «іКейс» в управлінській діяльності. Продемонстровано можливість аналізувати бізнес-процеси розслідування з використанням діаграми Ганта, яка наочно відображає тривалість окремих слідчих дій та їх вартість.

У результаті дослідження зроблено висновок, що правоохоронні органи України та інших держав, у першу чергу пострадянського простору, усе ще використовують модель управління результативності, засновану на принципах «палочної системи» – квазі-науковий термін, який позначає негативну характеристику управлінської діяльності,

орієнтовану на досягнення примітивних кількісних показників, а не забезпечення сталої якісної діяльності правоохоронних органів. Запропоновані підходи покликані підняти управлінську діяльність правоохоронців на якісно вищий рівень. У дослідженні підняті питання, які потребують уваги вчених у різних сферах: економічній, кримінально-правовій, кримінально-процесуальній, кримінологічній, адміністративній, економічної теорії права тощо.

Ключові слова: правоохоронні органи, управління ефективністю, управління витратами, управління ефективністю, управління продуктивністю, витрати на злочинність, витрати на розслідування, розрахунок вартості слідчих дій, оцінка ефективності служби, електронне кримінальне провадження

JEL Класифікація: H41, H83, K14, O35