DOI: 10.55643/fcaptp.6.65.2025.5051

DIRECTIONS OF IMPLEMENTATION OF THE ANTI-CORRUPTION POLICY TO ENSURE THE FINANCIAL SECURITY OF THE STATE

Dymytrii Grytsyshen
D.Sc. in Public Administration, Professor, Vice-Rector for Scientific and Pedagogical Work and Innovative Development, Zhytomyr Polytechnic State University, Zhytomyr, Ukraine;
ORCID: 0000-0002-1559-2403

Oleksandr Tokarchuk
Candidate of Legal Sciences, Doctoral Student, Department of National Security, Public Management and Administration, Zhytomyr Polytechnic State University, Zhytomyr, Ukraine;
ORCID: 0009-0006-9688-9052

Oksana Lukashuk
PhD in Public Administration, Department of National Security, Public Management and Administration, Zhytomyr Polytechnic State University, Zhytomyr, Ukraine;
e-mail: knbpuia_lom@ztu.edu.ua
ORCID: 0009-0008-3822-9317
(Corresponding author)

Stanislav Sokha
Candidate of Legal Sciences, Doctoral Student, Department of Law and Law Enforcement, Zhytomyr Polytechnic State University, Zhytomyr, Ukraine;
ORCID: 0009-0004-2606-1263

Oleksii Vasyliev
Candidate of Technical Sciences, Associate Professor, Head of the Darnytskyi District Department of Civil Protection and Preventive Activities of the Main Department, State Emergency Service of Ukraine in the city of Kyiv, Kyiv, Ukraine;
ORCID: 0009-0009-1241-4407

Received: 01/11/2025
Accepted: 02/12/2025
Published: 31/12/2025

ABSTRACT

Ehe relevance of the research topic is due to high indicators of corruption and corruption-related offenses and practically unchanged low dynamics of the Corruption Perception Index, which fluctuates in the corridor from 32 to 36 points. Such a situation significantly affects the level of financial security of the entire country; therefore, it requires a managed process approach to anti-corruption policy. The goal was to build a holistic functional model that demonstrates how improving the formation and implementation of new anti-corruption management decisions can transform input data into financial results. For this purpose, the IDEF0 methodology with ICOM interfaces was applied, hierarchical decomposition from the context diagram to second-level subprocesses was used, versioning rules, a number of key concepts, and requirements for data transparency were defined. As a result, the A0 model was obtained with a decomposition into five processes, from maintaining an acceptable level of financial security to assessing and adjusting changes, and full ICOMs were formed for each process. Thus, subprocesses A21-A23, A31-A32, A41-A43, and A51-A53 were described, and tables of information on the course and directives for regulating such processes were constructed. The value of the research is that it translates the initially conditionally designated connection between corruption and the financial security of the state into a clearly structured process model for the further adoption of anti-corruption management decisions. The proposed functional model can be directly used by public authorities and financial control bodies for planning, coordinating, and assessing the effectiveness of anti-corruption measures. The results obtained create a methodological basis for further scientific research and practical reforms in the field of combating corruption and strengthening the financial security of the state.

Keywords: corruption, corrupt actions, anti-corruption policy, financial security, security aspect, anti-corruption actions, functional modeling

JEL Classification: D73, H26, H83

INTRODUCTION

Corruption is a problem with deep historical roots. First and foremost, corruption undermines the state's financial stability due to its systemic impact on the entire cycle of public resources, from revenue generation to expenditure, debt management, and state property management. It reduces the tax base, significantly encourages the shadow economy, weakens tax compliance, and diminishes trust in public institutions. Inflated procurement costs, poor-quality infrastructure projects, and the misuse of subsidies and grants increase fiscal risks, leading to increased borrowing needs. Investor uncertainty leads to capital outflows, rising risk premiums for government bonds, increasing pressure on the exchange rate, and inflation expectations. Consequently, corruption distorts competition, concentrates resources in inefficient sectors, weakens banking supervision, and creates hidden state liabilities. Therefore, even isolated corrupt acts ultimately become a significant financial burden for the entire national economy. In the face of a full-scale armed invasion in Ukraine, anti-corruption policy is critical, as every hryvnia (UAH) of public funds must be used for defense, resilience, and recovery. Corrupt practices in defense procurement, logistics, infrastructure, and social programs undermine the state's ability to fund priorities, increase the cost of borrowing, and impede access to

international aid, which depends on transparency and accountability. It should be understood that only an effective anti-corruption policy, incorporating transparent digital procurement, open data, independent auditing, whistleblower protection, and the inevitability of punishment, can reduce fiscal losses, improve the quality of public services and investments, and strengthen trust among citizens and partners. Through such a policy, the state maintains manageable budget liquidity, financial sector stability, and the resilience of the economy to shocks, thereby strengthening its long-term financial sustainability.

The article is devoted to solving the problem of the lack of a coherent and manageable model for implementing anti-corruption policy in the field of public finances, which would directly link specific anti-corruption actions with indicators of the state's financial security. Therefore, in our opinion, under conditions of a high level of corruption and corruption-related offenses and an almost unchanged Corruption Perception Index, the existing state authorities, control tools, and digital platforms operate fragmentarily, information flows are poorly coordinated, and management decisions rarely have a clearly traceable financial effect. This does not allow converting numerous signals about corruption and data sets into a consistent cycle of actions.

LITERATURE REVIEW

Current research by scholars demonstrates that the corruption systemically weakens fiscal and growth potential, and therefore the financial stability of the state. The channels through which this impact is manifested are described in both theoretical models and empirical studies. In conclusion, Ivanina, Moumouras, and Rangazas (2016) demonstrate the existence of a dynamic model of the relationship between a culture of corruption, deteriorating tax compliance, and lower growth rates under low taxation. Discipline alters the use of public goods and preserves low-income sectors. Kunieda, Okada, and Shibata (2014) argue that the liberalization of the ruling capital will reduce the growth in countries with low levels of corruption, but in countries with high levels of corruption, there will be an influx of resources and harm long-term development. At the same time, Swaleheen (2011) documents the non-linear effect of corruption on the rate of growth, highlighting the endogenous nature of this phenomenon and the need for policies that undermine tax institutions and credentials. Zimelis (2020) outlines the need for an integrated approach to corruption investigations across economic, legal, and social dimensions, which are critical for assessing macroeconomic stability.

Some scientific and practical works focus on quantitative analysis of the relationship between corruption and banking stability. For example, Ben Ali, Fhima, and Nouira (2020) use the data obtained to demonstrate that corruption increases the likelihood of banking crises by deteriorating the quality of loan portfolios, encouraging excessive risk-taking, and inefficient allocation of resources. But Asteriou, Pilbeam, and Tomuleasa (2021), using data from banks in the monetary union countries, show that corruption statistically significantly reduces both bank profitability and their financial stability, while increased regulation and economic freedom can partially neutralize these risks.

Other works highlight the direction of institutional and legal mechanisms against corruption, which will directly impact on budgetary discipline, security and trust investors So, for example, Giupponi and Yu (2022) analyze the barriers to corruption in the right about illegal investments on international platforms, looking at the difficulties of proving the gaps in the mandates of arbitrators, which reduces efficiency of asset rotation and recovery. But Juwita (2023) interprets corruption as a violation of human rights, reinforcing the argument that insight and awareness are not only economic, but also a legal imperative for saving financial durability. Lytvyn et al. (2023) systematize the administrative and legal instruments of prevention, emphasizing the importance of procedural standards, independent audit, and coordination of bodies at a glance. Melchenko and Derkachenko (2021) emphasize scientific approaches to the concept of corruption, which is important for the unification of the law and the reduction of risks, while Romanov (2022) advocates sociological suppression of corruption as compensation for the dysfunction of public relations. Thus, Rivas (2013) adds that gender bias in susceptibility to corrupt practices can manifest itself in controlled minds, which may be important for the design of personnel policies and escape mechanisms.

AIMS AND OBJECTIVES

As an aim, we set the task of forming a holistic functional model using the IDEF0 methodology, which demonstrates how to improve anti-corruption policy step by step in order to increase the level of financial security of the state. To do this, the task is to conduct appropriate modeling through clear coordination of inputs, controls, mechanisms, and outputs, transparent transformation of data into solutions, as well as regular assessment of effects on budget revenues, losses from corruption, etc.

DOI: 10.55643/fcaptp.6.65.2025.5051

METHODS

As a part of the description of the methodology of our article, we will present the essence and content of the IDEF0 and ICOM methods, adapted to our research goal, namely, ensuring the financial security of the state through improving anti-corruption policy. Thus, the IDEF family methodology is used as a functional approach that describes not a temporal sequence of steps, but the transformation of inputs into outputs under certain control conditions with the involvement of specific executive capabilities. The method works top-down, from the context diagram to hierarchically detailed subprocesses. It also helps maintain a balanced interface between blocks, ensures rule transparency, and enables auditing.

It should be emphasized that IDEF0 is a functional method for describing complex systems, in which each process is modeled not as a "black box", but as a function of transforming inputs according to certain rules into measurable outputs with the involvement of specific execution capabilities. Formally, the process Ai is represented by a rule (1):

$$A_i \equiv \langle I_i, C_i, O_i, M_i, f_i \rangle, \quad (1)$$

where I_i are the inputs to be transformed; C_i are the directives and constraints that govern the method of execution; M_i are the mechanisms; O_i are the outputs; f_i is the process representation.

The essence of the method is expressed by the relation (2):

$$O_i = f_i(I_i, M_i; C_i) \quad (2)$$

In a multilevel representation, the upper process A0 is decomposed into subprocesses A1,…,A5 with the interface balancing condition (3):

$$A0 = \otimes_{k=1}^{5} A_k \quad (3)$$

It should be noted that the presented formulas (1), (2), and (3) are our formalization of the classical IDEF0 concept, where a function is described as the transformation of input data and objects into output results with the participation of mechanisms and under the influence of control influences. This approach is based on the basic FIPS 183 standard, which defines the IDEF0 functional modeling language and the ICOM interface system (Li, 2009).

The ICOM system should be explained separately. Thus, it essentially defines four types of interfaces. Inputs are data and objects that are subject to transformation. Controls are norms, procedures, and restrictions that determine the permissible course of action. Outputs are products and consequences of the process with requirements for their quality. Mechanisms are institutions, people, resources, and infrastructure through which the process is actually performed. Such a structure forces a clear distinction between evidentiary information and regulations, resources, and results, which is especially important in legal and management security tasks.

RESULTS

Since the independence of our country, and to this day, corruption has been one of the most important problems in ensuring financial security, along with inflation (Figure 1). The gap between registered and recorded cases in 2023–2024 indicates delays in processing and heterogeneity of fixation procedures. This kind of situation indicates structural shifts in the identification and documentation of facts, depending on the existing organizational capacity and data quality, which requires a transparent process approach to coordinate sources, rules, and executors, which is why the use of functional modeling IDEF0 with ICOM is an appropriate step to transform a set of weak signals into coordinated solutions to ensure financial security. Thus, functional modelling in the IDEF0 notation with ICOM interfaces is therefore appropriate because it formalizes this chain as a set of interlinked functions with clearly defined inputs, controls, mechanisms, and outputs, and makes it possible to transform scattered weak signals into a coordinated sequence of decisions aimed at strengthening financial security.

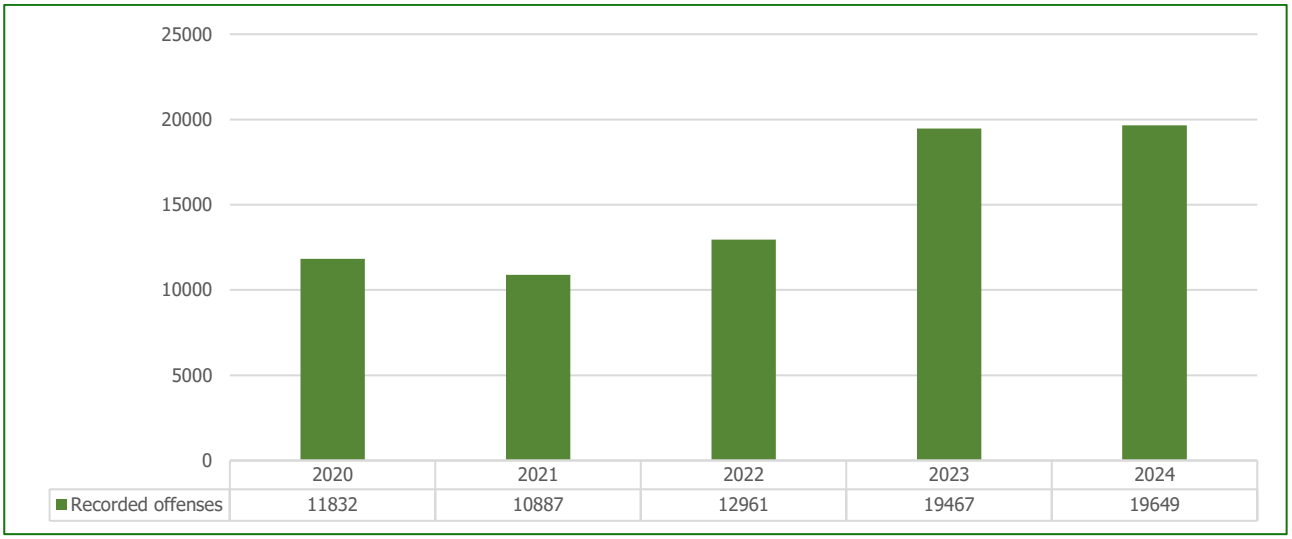

Figure 1. Dynamics of changes in the number of open corruption criminal cases in Ukraine (2020–2024).

The Corruption Perceptions Index for Ukraine remains within a narrow range of 32 to 36 points in 2020–2024, indicating moderate progress amid high inertia in the perception of corrupt practices. Thus, the trajectory indicates mixed signals for experts and business, when individual reforms and digital services strengthen trust, but uneven implementation of adopted security decisions, law enforcement, and general uncertainty hinder sustainable improvement and ensuring financial security (Figure 2).

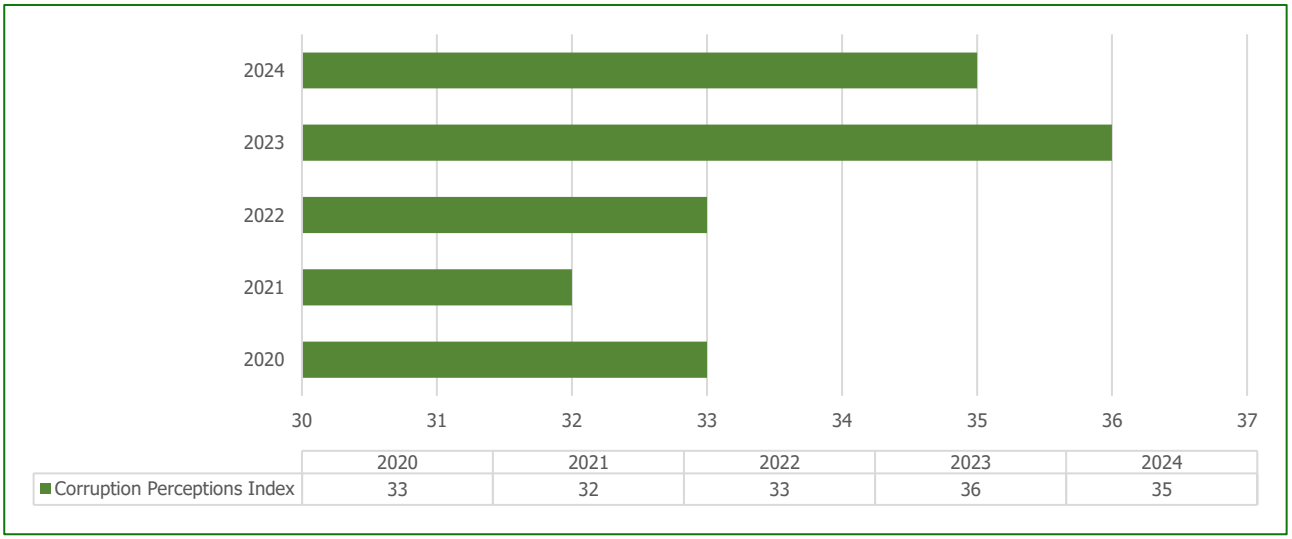

Figure 2. Corruption Perception Index for Ukraine (2020–2024).

Therefore, this logically leads to the need for a structured approach, where, using functional modeling IDEF0 with ICOM, each step of the anti-corruption policy is tied to specific inputs, rules, enforcement mechanisms, and certain outputs, which gives a chance to convert episodic improvements in perception into lasting security dynamics.

Therefore, let's move directly to modeling. To begin with, let's define the main goal, which is A0 "to ensure the financial stability and sustainability of the state through the improvement of anti-corruption policy". Thus, this kind of goal is consistent with the key task of the study, which is to identify areas for implementing anti-corruption policy to ensure the financial security of the state (Figure 3).

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The purpose of the modeling:

To create a holistic functional model to ensure the financial security of the state through the improvement of anti-corruption policy. The model should combine the detection and assessment of corruption in public finances, the development and selection of anti-corruption interventions, their integration into the current policy, as well as constant monitoring and adjustment.

Point of view and target audience of the model:

Coordination Center under the Cabinet of Ministers of Ukraine, Ministry of Finance of Ukraine, National Agency for Corruption Prevention, National Anti-Corruption Bureau of Ukraine, Specialized Anti-Corruption Prosecutor's Office, High Anti-Corruption Court, Accounting Chamber, State Audit Service of Ukraine, State Tax Service of Ukraine, State Treasury Service of Ukraine, National Bank of Ukraine, Ministry of Economy of Ukraine, Ministry of Digital Transformation of Ukraine, local governments, public organizations, business associations and international partners on open data and anti-money laundering.

Context of the functional model:

The model covers the full cycle of public finance management with an anti-corruption focus.

Modeling technology:

IDEF0 principles, rules, and procedures are used: hierarchical decomposition (A-0 → A0 → A1–A5), formalization of interfaces via ICOM (inputs, controls, outputs, mechanisms), clear names of processes in the form of a design, display of constraints and decision points, version numbering, tracing of links between diagrams.

Software:

Tools for creating vector diagrams and building IDEF0 and, if necessary, Microsoft Visio.

Figure 3. Basic conditions for developing a functional model for ensuring the financial security of the state through improving anti-corruption policy.

In the context of our research, we, together with experts (additional experts were also involved), identified a number of stages that make up the set A = A1, A2, A3, A4, A5, which allows us to achieve A0. Thus, this set will constitute the hierarchical structure of our functional model IDEF0. It should be noted that this kind of format is a necessary step for a systematic representation of the implementation process, since it allows us to clearly structure the tasks, establish the logic of their implementation, and ensure the consistency of the actions of all involved entities in ensuring financial security (Figure 4).

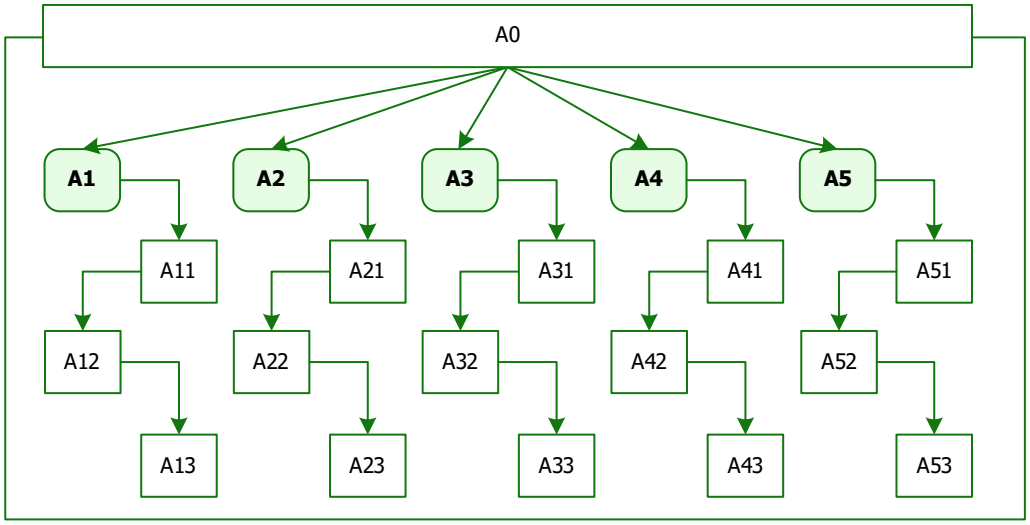

Figure 4. Hierarchical structure of the IDEF0 model for ensuring financial security through improving anti-corruption policy.

In other words, A1–A5 and their subprocesses A11–A13, A21–A23, A31–A33, A41–A43 and A51–A53 denote consecutive stages of the anti-corruption policy cycle. Next, we will apply the ICOM method described above in practice. Thus, the ICOM construction reflects the logic of IDEF0, where management determines the permissible rules of action, inputs are data and facts for transformation, mechanisms are the capabilities of state bodies and infrastructure, and outputs are specific results that will make it possible to ensure an acceptable level of financial security of the state (Figure 5).

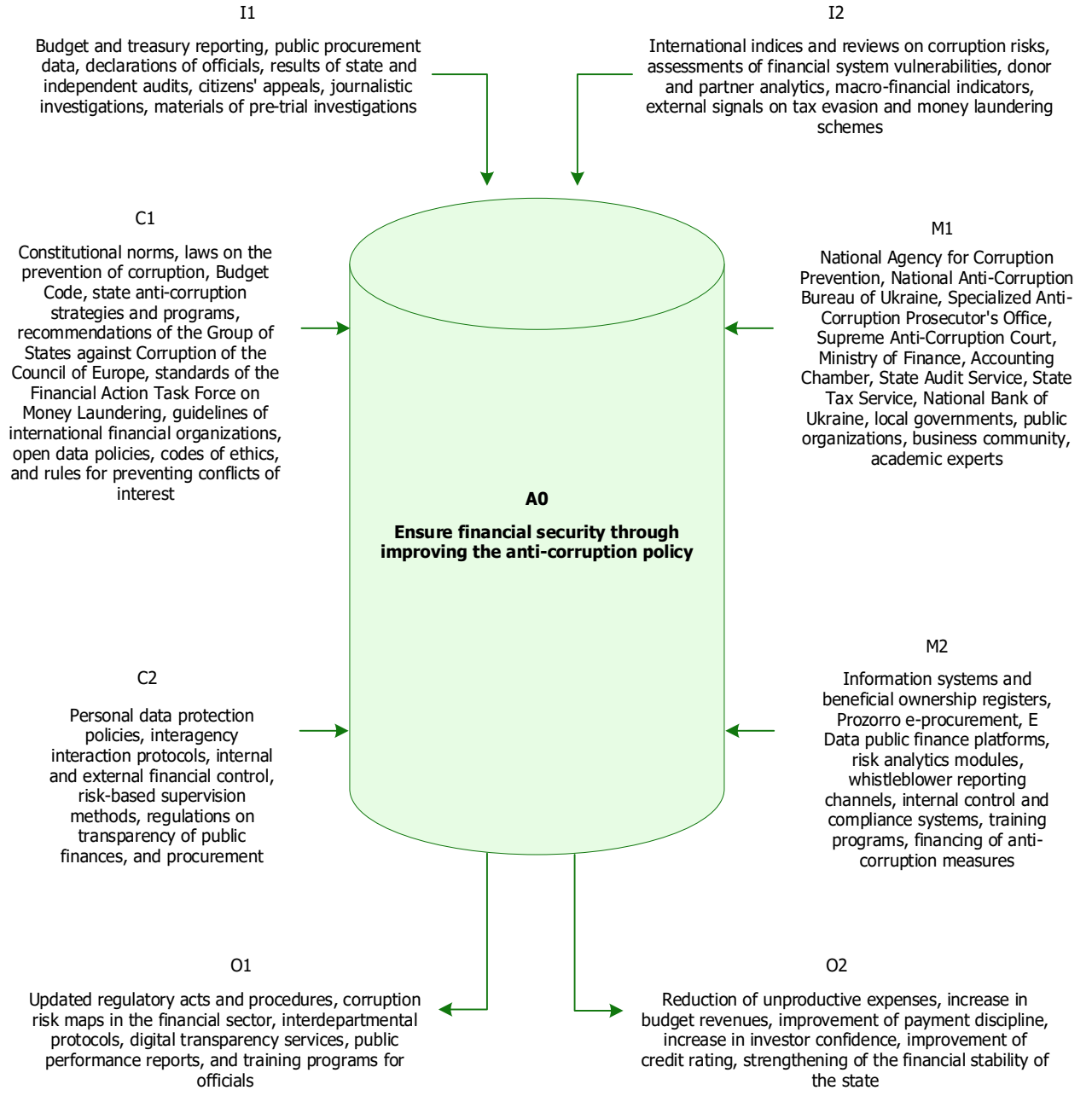

Figure 5. IDEF0 Context Diagram for ensuring financial security through improving anti-corruption policy.

Let us describe our proposals for achieving A0 "Ensure financial security through improving anti-corruption policy" (Figure 6).

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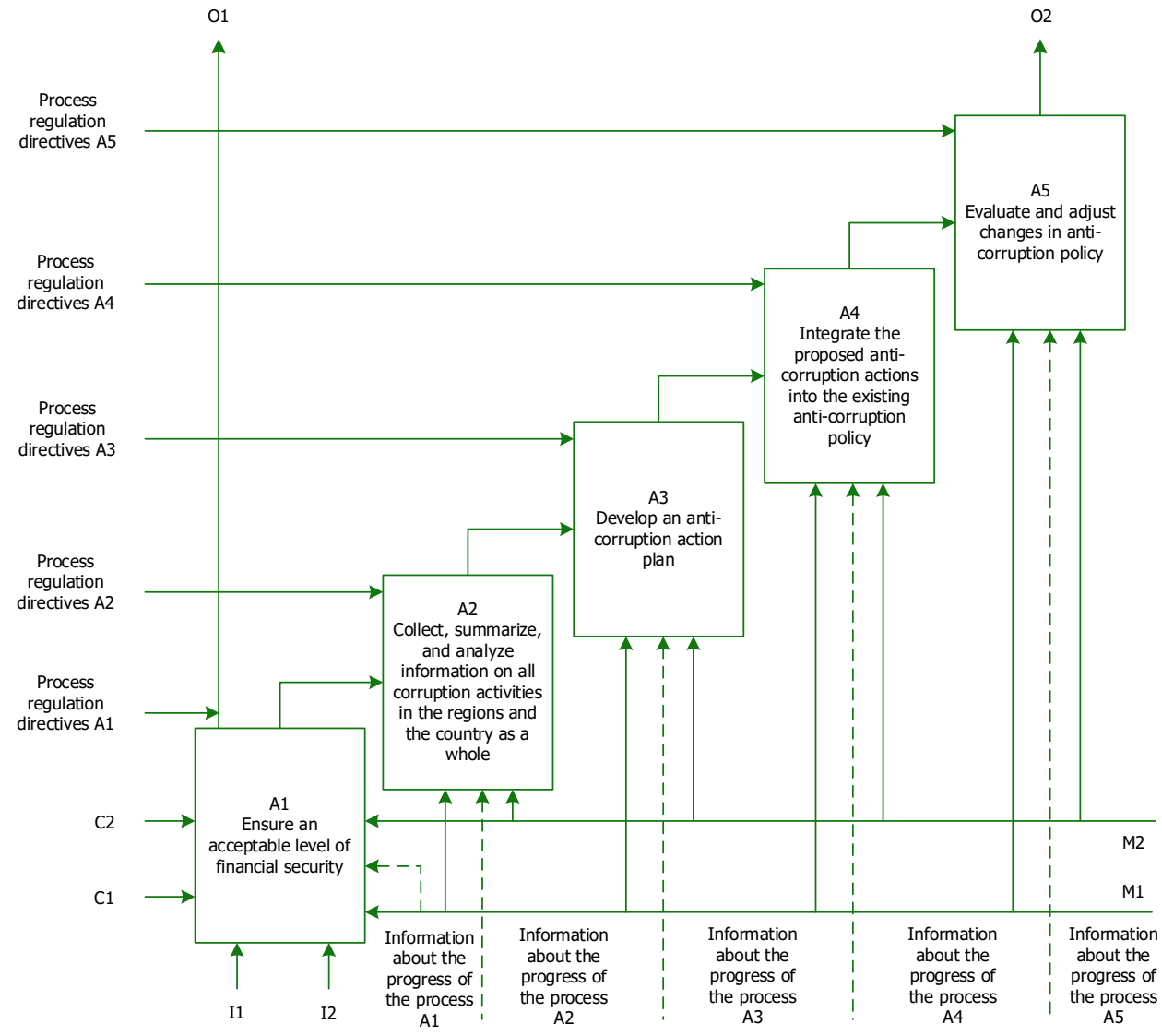

Figure 6. Functional model for ensuring financial security through improving anti-corruption policy.

A1. Ensure an acceptable level of financial security. This is more of a starting process for our decomposition, within which the entire system not only supports current rules and procedures, but also constantly adapts them to existing risks, threats, and signals of the external environment. These are clearly managed changes based on data received at the model inputs, on legal and other restrictions as control elements, and on institutional and technological capabilities as mechanisms. Adaptation is carried out in advance, taking into account forecasts and assessments of scenarios of impact on budget revenues, expenditures, debt sustainability, and investor confidence. Decisions must be made in accordance with current legislation and internal regulations, while maintaining traceability and responsibility. Direct effectiveness depends on the ability to work with a large amount of data, as well as on the operation of digital services and internal control.

A2. Collect, summarize, and analyze information on all corruption activities in the regions and the country as a whole. At this stage, processes are formed for reviewing facts, events, and transactions that are directly or indirectly related to corruption activities in the field of public finances. Thus, in essence, data sources are integrated, standardized, filtered through legal, ethical, resource, and organizational constraints, as well as classified by types of corruption activities and channels of their occurrence. Information from open platforms, audits, procurement systems, declarations, and whistle-blower reports is consistent with the structure of indicators, which allows for comparing regional and industry profiles over time. It is important to ensure the verifiability and attribution of each observation in order to prevent false positives and to have procedural value for further actions.

A3. It should be noted that the plan should be based on the results of the previous stages of data collection and analysis. The plan must also be implemented within established legal and administrative constraints to ensure the proposed actions are permissible and feasible. At the same time, alternative options for interventions are generated, taking into account resources, time frames, and risks. Each option receives a clear purpose, expected results, performance indicators, responsible executors, and control mechanisms. The position of external and internal experts is used to clarify assumptions and compensate for the lack of precedents. Decisions are formalized and traced to data sources and norms, which ensures further traceability of implementation and adjustment. Feedback rules, reporting formats, review triggers, and requirements for information openness are defined for the manageability of implementation.

A4. Integrate the proposed anti-corruption actions into the existing anti-corruption policy. Therefore, this type of integration begins with the coordination of new security measures with the existing regulatory framework and operational procedures. Personnel training, communication, and internal control settings are carried out to prevent deviations in implementation. The key is the transition from declarations to practical application, that is, the transformation of approved decisions into routine management practices that consistently produce measurable results.

A5. Evaluate and adjust changes in anti-corruption policy. This type of evaluation mechanism should be based on a more integrated system of indicators that combines the effectiveness of preventing and detecting corrupt acts, the quality of the implementation organization itself, the efficiency of resource use, and the effectiveness of managerial influence. Indicators have time and qualitative attributes. Data are collected continuously, validated, and compared with thresholds that determine the need for corrective action. If a deviation is observed, a plan revision is initiated, procedures are clarified, capabilities are strengthened, or the set of indicators is changed to maintain the relevance of the measurement and the manageability of the process.

Separately, we will consider in more detail the intermediate inputs, outputs, controls, and mechanisms from the decomposition presented above, which are depicted by arrows on the diagrams of the IDEF0 model of the financial security process. Thus, we are talking about the so-called "directives" and "information about the course of processes." In essence, information about the course of the process tracks the status and dynamics of execution, and regulatory directives set the permissible framework and standards of interaction between entities involved in the process of ensuring financial security or anti-crisis measures (Table 1).

Table 1. Information about the process and key directives for its regulation.

A	Information about the process	Directives
A1	Budget deficit and cash gaps, revenue and expenditure dynamics, debt burden, indicators of corruption losses in finance, and implementation of the stabilization action plan	Constitutional norms, Budget Code, state anti-corruption strategies, and debt policy regulation
A2	Number and completeness of signals, share of confirmed events, noise level, processing time, quality of attribution to individuals and transactions	Corruption prevention legislation, supervision and audit, and access to public information
A3	Development and approval status, number of alternatives, impact assessment results, readiness for implementation, availability of resourcing	Regulations for the development of government decisions, regulatory impact assessment, and budget procedures
A4	Percentage of processes that have switched to new rules, level of compliance with procedures, training coverage, readiness of IT services, and number of identified non-conformities	Departmental implementation instructions, internal control standards, and public procurement acts
A5	Integral performance indicators, deviations from thresholds, frequency of corrective actions, reaction time, and effect on financial security	Monitoring and public reporting procedures, performance audit standards, policy review mechanisms

It should be noted that one of the features of IDEF functional modeling is the ability to detail each process into corresponding subprocesses. Thus, the first-order decomposition is revealed at the next level of detail, which increases the clarity of the development and further application of the model. Showing these three subprocesses is necessary, since they cover the full cycle of achievement A2 (Figure 7).

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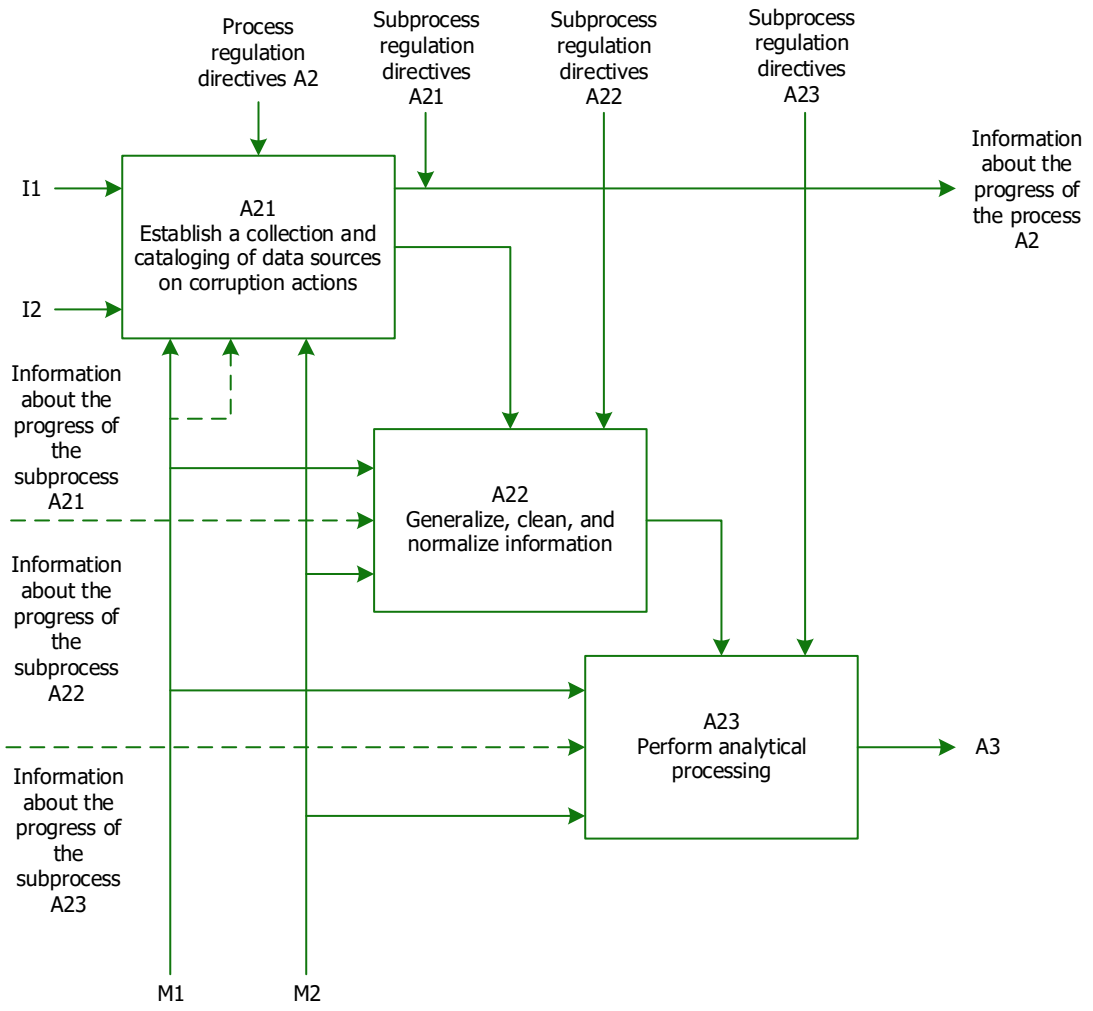

Figure 7. Functional model to achieve A2.

A21. Establish collection and cataloging of data sources on corruption actions. The subprocess creates a complete register of information flows and rules for their regular replenishment. Submission formats, access rights, record attribution, update frequency, and quality control of primary data are established. The output is a unified catalog of sources and a stream of more validated records with a minimum level of information noise and duplication, suitable for further generalization and analytics.

A22. Generalize, clean, and normalize information. Primary records are brought to common directories of subjects, processes, and events, and semantic comparison of identical entities from different systems is performed, and unstructured texts and media are processed. Data is filtered through legal, ethical, and resource constraints to create a complete and usable picture. The result is a single repository of consistent observations with reliability metrics, change logs, and traceability to the source, providing evidentiary value and further automation of analysis.

A23. Perform analytical processing. Consistent data sets are transformed into risk maps, vulnerability profiles, ratings, and analytical reports for further decision-making. Response triggers and recommendations for regulatory and process interventions are identified, and a report package is generated for public and internal use.

Next, we will describe the A3 process within the framework of achieving A0 of our functional model (Figure 8).

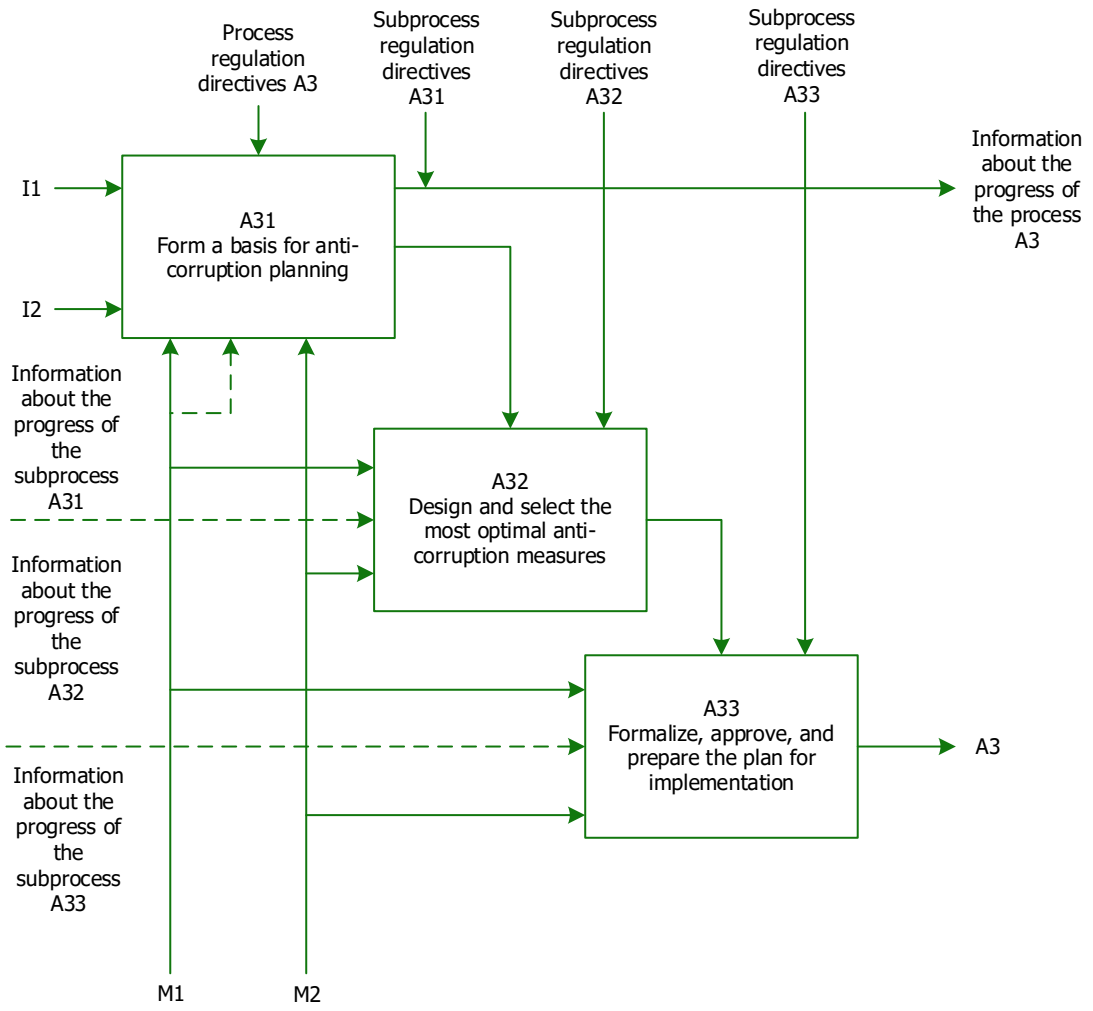

Figure 8. Functional model to achieve A3.

A31. Form a basis for anti-corruption planning. The sub-process begins with the interpretation of input data I1 and I2, including the results of the analysis of corruption activities and macro-financial threats, as well as taking into account the management of C1 and C2, i.e., the requirements of legislation and transparency protocols. Objectives, threshold values of indicators, criteria for selecting measures, principles of openness and accountability, and rules of interaction between entities are determined.

A32. Design and select the most optimal anti-corruption measures. The sub-process transforms the requirements of A31 into alternative options for actions that affect revenues, expenditures, procurement, control, and responsibility. Each option undergoes a feasibility assessment within C1 and C2, including legal admissibility, resource constraints, implementation risks, and the expected effect on financial sustainability. Internal and external experts are involved, consultations are held, and the traceability of assumptions and data is ensured. The proportion between quick fixes and system changes is determined in accordance with established prioritization criteria.

A33. Formalize, approve, and prepare the plan for implementation. The final subprocess gives the plan some operational capability. A plan versioning policy is implemented, a change log is maintained with justification of the impact on processes, and a change management policy with a formal request, impact assessment, and migration plan is in place. Targeted training is provided for implementers, and the results of the implementation are recorded, including discrepancies and plans for their elimination.

We go further, and next we have the A4 process (Figure 9):

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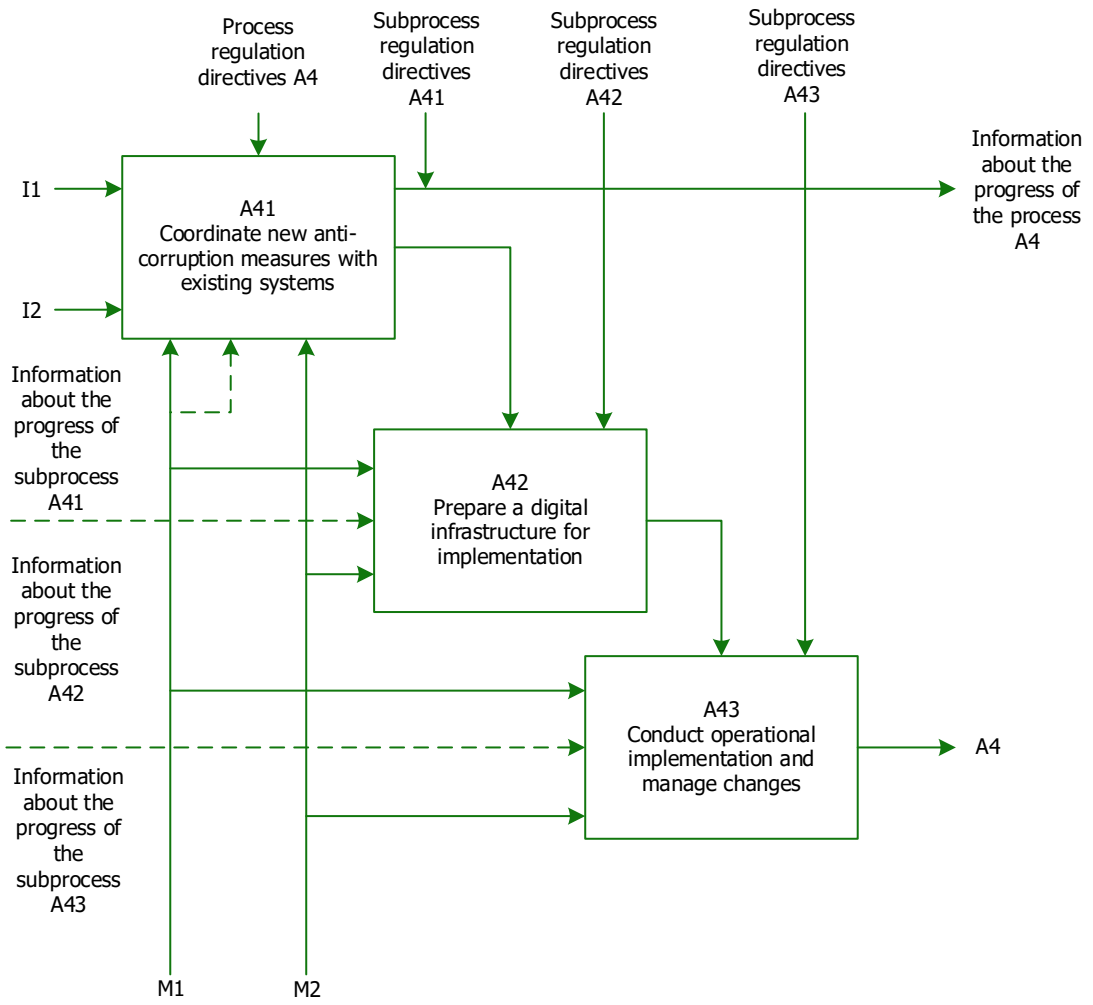

Figure 9. Functional model to achieve A4.

A41. Coordinate new anti-corruption measures with existing systems. This type of sub-process checks the compliance of the proposed actions with current regulations, builds interdepartmental protocols, unifies document and reporting forms, and establishes the responsibility of executors. The goal is to move from formal decisions to effective practices, that is, so that the updated rules work in the daily activities of state authorities.

A42. Prepare a digital infrastructure for implementation. Implementation regulations are developed, personnel training is carried out, information systems, control modules, and feedback channels are configured. In parallel, data exchange standards and quality criteria are established to ensure reproducibility and transparency.

A43. Conduct operational implementation and manage changes. Checkpoints, compliance mechanisms, the procedure for recording deviations and corrective actions, as well as a document versioning policy, are determined.

Finally, let us consider the final stage of the functional model, namely A5 (Figure 10):

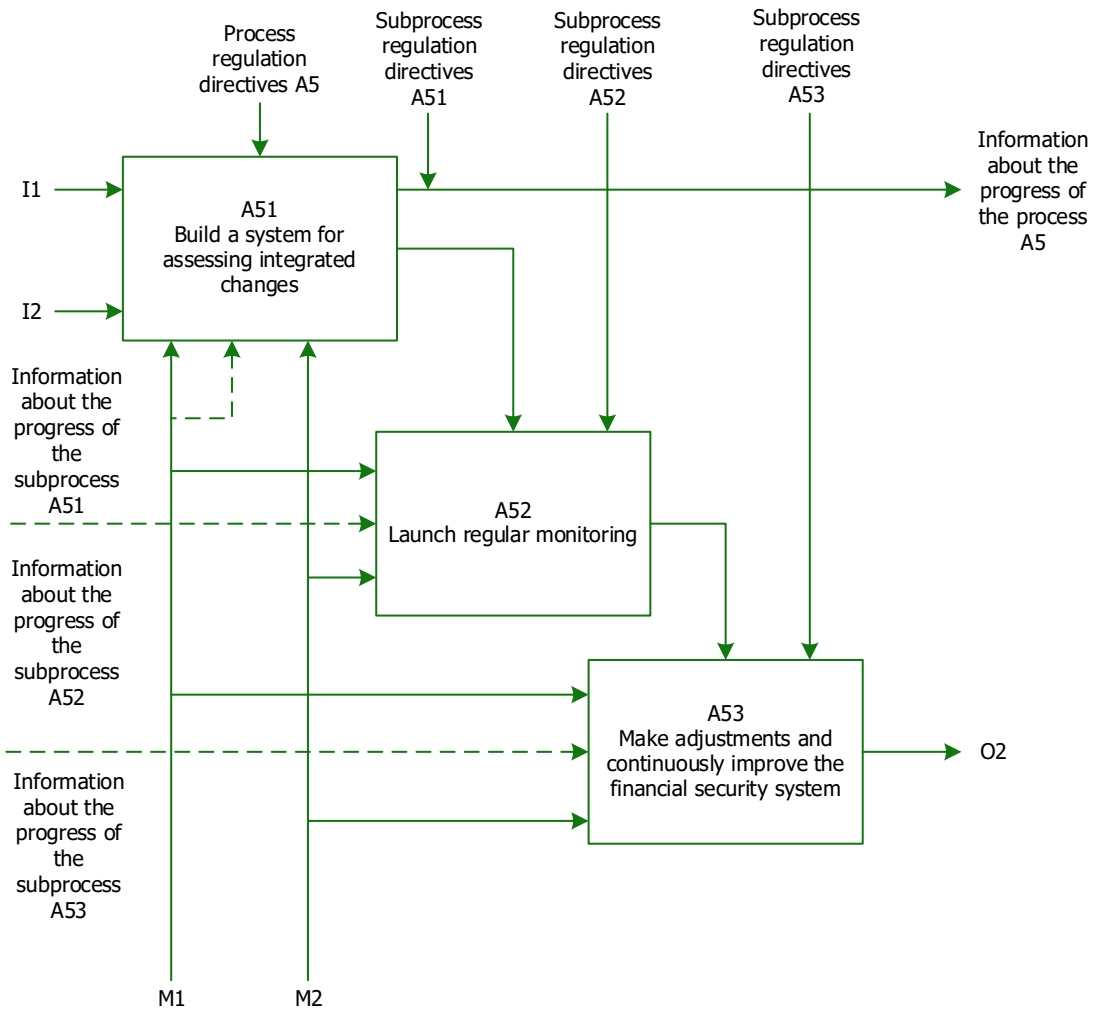

Figure 10. Functional model to achieve A5.

A51 Build a system for assessing integrated changes. The methods of effectiveness, sources, and periodicity of data collection, thresholds and response triggers, rules for validation and attribution of information are determined. The goal is to create a reliable basis for an objective assessment of how certain actions affect the stability of public finances and the reduction of corruption.

A52. Launch regular monitoring. The collection and analysis of indicators in dynamics, comparison with thresholds, preparation of management and public reports, and verification of compliance with procedures are carried out. The traceability of decisions is ensured, as well as the possibility of independent supervision.

A53. Make adjustments and continuously improve the financial security system. Based on the results of monitoring, changes are made, capabilities are strengthened, and information systems are updated. Accumulated practices are summarized, distributed among state authorities, and updated roadmaps are formed.

Thus, the above-presented detailing starting from A2 and ending with A5 (A1 was not advisable to detail, since it is an introductory process) corresponds to the IDEF0 methodology, which involves breaking down each first-level block into second-level managed subprocesses, which increases the clarity of development and facilitates the application of modeling results. More specifically, the model identifies a number of key steps that support the implementation of these five goals in a financially relevant way. For the detection of corruption risks, subprocesses A21–A23 establish a unified catalog of data sources, clean and normalize records, and transform them into risk maps and vulnerability profiles that reflect threats to public revenues and expenditures. For the improvement of rules and procedures, subprocesses A31–A33 convert analytical findings into alternative regulatory and process options, assess their feasibility and expected fiscal effects, and formalize them in approved anti-corruption plans. Strengthening digital transparency is ensured through subprocesses A41–A42, which align new measures with existing information systems, configure e-procurement and open data platforms,

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and set up feedback channels for citizens and external stakeholders. Enhancement of supervision is provided by subprocesses A43 and A51, which define responsibilities for control bodies, embed internal and external audit mechanisms, and link them to indicators of financial security. Continuous monitoring and evaluation are implemented through subprocesses A52–A53, where integrated indicators, thresholds, and feedback loops are introduced that connect observed changes in budget discipline, corruption losses, and investor confidence with timely adjustments of anti-corruption policy. Taken together, these steps demonstrate how the functional model can serve as a practical roadmap for implementing anti-corruption measures that consistently strengthen the financial security of the state.

DISCUSSION

A comprehensive comparison of our results with relevant scientific works suggests that our work is distinguished by the fact that we have translated the relationship between corruption and the state's financial security into a clearer and more manageable architecture of sequential processes and subprocesses. Modern developments (Gründler & Potrafke, 2019; Setor et al., 2021; Mouselli et al., 2016) of the predecessors prove the negative macro-effect of corruption for the growth and investment capacity of the national economy, but rarely describe the operational mechanism of the transformation of all processes and sub-processes. Therefore, our functional model IDEF0 with ICOM in the form of decomposition provides this missing link, combining a number of anti-corruption processes with specific interfaces of inputs, controls, mechanisms, and outputs, as well as with constant monitoring and adjustment. Such an approach complements any results on the connection between corruption and growth, transferring them into manageable sub-processes. A separate difference lies in the embedded digitalization of all processes and subprocesses.

Thus, scientific and practical literature (Setor et al., 2021; Galoyan et al., 2025; Serzhanov et al., 2022; Zaporozhets et al., 2024; Zhang et al., 2023; Mouselli et al., 2016) shows that cashless payments and digital traces reduce the opportunities for abuse, and modern indicators in the context of digitalization of public relations increase the quality of assessing corruption cases. We have transferred these conclusions to a number of our processes and subprocesses within the framework of the formed decomposition of ensuring financial security. It also makes it possible to quickly connect risk signals with management decisions at the level of the budget process and procurement, taking into account regional differences, as required by modern approaches to digital indicators and anti-corruption interventions in public finances and related government sectors (Setor et al., 2021; Galoyan et al., 2025; Serzhanov et al., 2022; Zaporozhets et al., 2024). At the same time, we took into account the warnings about the ambiguity of the relationships between anti-corruption measures and security development, so the model integrated a feedback loop with verification of undesirable consequences and adjustment mechanisms, which corresponds to the conclusions about complex, often nonlinear effects and the need for adaptive management (Zhang et al., 2023; Mouselli et al., 2016).

In the context of the discussion of the obtained results, we would also like to emphasize the popularization of the functional modeling method itself. Thus, IDEF0 today works as a highly connected node with the most powerful connections to systems engineering, industrial engineering, production systems, management, safety, lean manufacturing, supply chains, and operations research. There are noticeable connections with various fields of activity. In addition, the areas of public administration, healthcare, logistics, energy operations, construction, as well as the product cycle digitalization cluster, which includes product lifecycle management, digital twins, and Industry 4.0, should be separately highlighted. It should be noted that the thickness of the edges and the size of the nodes themselves suggest where the methodology is used most intensively, namely in domains with strong process control, as well as in the management of complex organizational systems (Figure 11).

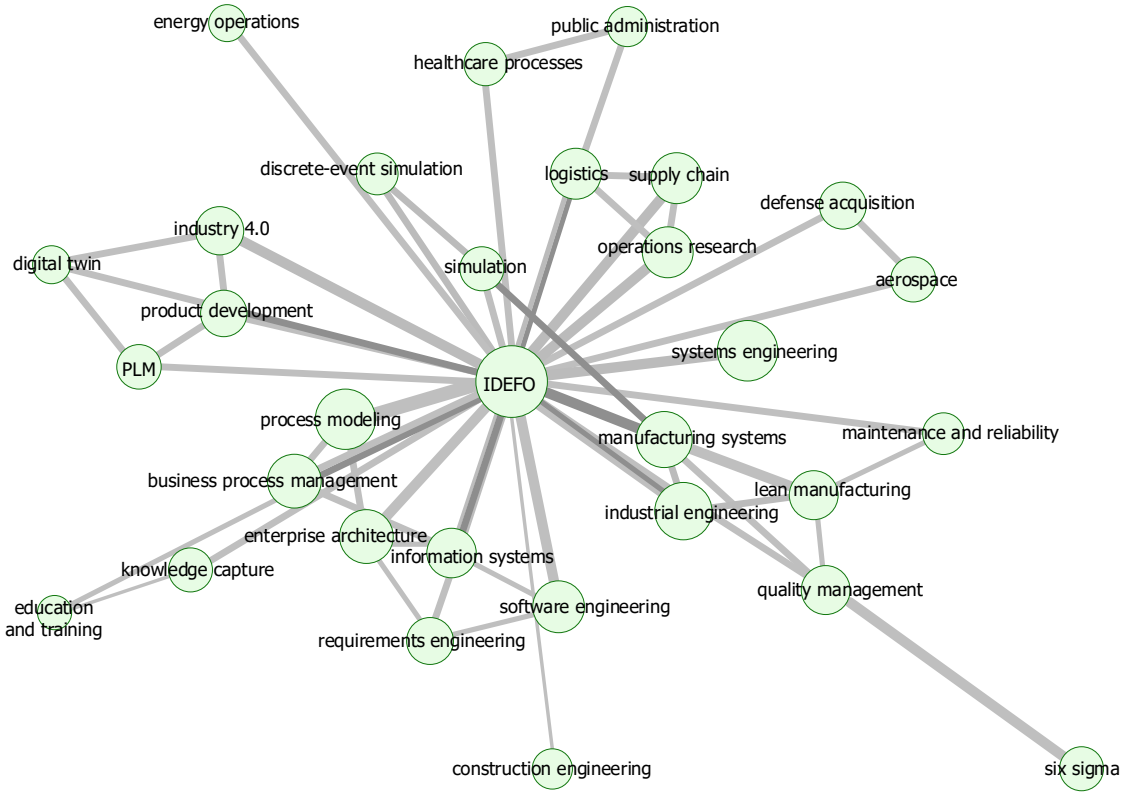

Figure 11. Network map of connections between areas of application of the IDEF0 methodology in various scientific and practical ways.

At the same time, in the context of our study, the most relevant are public administration, management, information systems, and process modeling itself. These areas provide ready-made practices for transparently building interdepartmental interfaces, managing changes in procurement and the budget cycle, standardizing procedures, and introducing continuous improvement based on quality management and lean approaches. The use of IDEF0 in these areas demonstrates that our model of anti-corruption policy in the context of ensuring financial security is based on proven process methods with high reproducibility, clear roles, and traceability, which reduces the risk of incoherence and enhances the manageability of results.

CONCLUSIONS

It should be noted that the functional modeling we conducted using the IDEF0 methodology showed that ensuring the financial security of the state today, through the improvement of the current anti-corruption policy, requires clear coordination of inputs, controls, mechanisms, and outputs, as well as transparent logic of transformations. Therefore, the A0 context diagram (constructed by us within the framework of the article) was decomposed into 5 interconnected processes, from maintaining an acceptable level of financial security to evaluating and adjusting changes to the policy itself, which ensured a closed loop from data to managed results. In addition, second-level decompositions for each block were also presented, which in turn determined the sequential sub-processes through which information is transformed into secure management anti-corruption actions. Coordinated tables with information on the course of processes and regulatory directives fixed the requirements for legality, accountability, traceability, and timely feedback. Thus, the vector we have constructed in the form of a functional model allows us to promptly detect corruption in the field of public finances, assess their impact on revenues and expenditures, implement targeted interventions, monitor the implementation, and confirm the achievement of target indicators for ensuring the financial security of the state. So, in conclusion, our model creates a managed mechanism for reducing losses, increasing budget discipline, strengthening investor confidence, and strengthening the protection of the financial interests of the state, since they are the key objects of financial security.

Regarding further research, we note that all prospects for further scientific actions on our part would be advisable to direct to a more in-depth detailing of the sub-processes of data collection and analysis, and to expanding the block for assessing effects, taking into account all possible scenarios and sensitivity to key assumptions. The combination of the model with digital monitoring platforms and automated compliance control systems is promising, which will enhance the timeliness of assessment and the quality of managerial anti-corruption decisions.

DOI: 10.55643/fcaptp.6.65.2025.5051

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

All authors have contributed equally.

FUNDING

The Authors received no funding for this research.

CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

REFERENCES

1. Asteriou, D., Pilbeam, K., & Tomuleasa, I. (2021). The impact of corruption, economic freedom, regulation and transparency on bank profitability and bank stability: Evidence from the Eurozone area. *Journal of Economic Behavior & Organization, 184*, 150–177. https://doi.org/10.1016/j.jebo.2020.08.023
2. Ben Ali, M. S., Fhima, F., & Nouira, R. (2020). How does corruption undermine banking stability? A threshold nonlinear framework. *Journal of Behavioral and Experimental Finance, 27*, 100365. https://doi.org/10.1016/j.jbef.2020.100365
3. Corruption Perceptions Index. (2024). https://www.transparency.org/en/cpi/2024
4. Galoyan, D., Chernov, S., Sokolovskiy, K., & Bratanovskii, S. (2025). Corruption against sustainable development: Modern system of indicators for assessing corruption cases in the context of ongoing digitization of public relations. *International Journal of Sustainable Development and Planning*, *20*(2), 913-921. https://doi.org/10.18280/ijsdp.200239
5. Giupponi, B.O., & Yu, H-L. (2022). Analysing Obstacles and Challenges in Fighting Corruption in Cases of Illegal Investments. *Laws, 11*(59), 1–25. https://doi.org/10.3390/laws11040059
6. Gründler, K., & Potrafke, N. (2019). Corruption and economic growth: new empirical evidence. *Eur. J. Polit. Econ. 60*, 101810. https://doi.org/10.1016/j.ejpoleco.2019.08.001
7. Integration Definition for Function Modeling (IDEF0). http://asqservicequality.org/glossary/idef0-integrated-definition-for-functionmodeling/
8. Ivanyna, M., Moumouras, A., & Rangazas, P. (2016). The culture of corruption, tax evasion, and economic growth. *Econ Inq, 54*(1), 520–542. https://doi.org/10.1111/ecin.12228
9. Juwita, R. (2023). Exploring Corruption as a Violation of Human Rights in the Practices of International Human Rights Institutions. *Journal of Human Rights Practice*, *15*(1), 302–321. https://doi.org/10.1093/jhuman/huac048
10. Kunieda, T., Okada, K., & Shibata, A. (2014). Corruption, capital account liberalization, and economic growth: theory and evidence. *Int. Econ.*, *139,* 80–108. https://doi.org/10.1016/j.inteco.2014.03.001
11. Li, Q., & Chen, Y. L. (2009). IDEF0 function modeling. In *Modeling and analysis of enterprise and information systems* (pp. 98–122). Springer. https://doi.org/10.1007/978-3-540-89556-5_5
12. Lytvyn, N.A., Artemenko, O.V., Kovalova, S.S., Kobets, M.P., & Kashtan, E.V. (2023). Administrative and legal mechanisms for combating Corruption. *Journal of Financial Crime*, *30*(1), 154–166. https://doi.org/10.1108/JFC-11-2021-0241
13. Melchenko, V. I., & Derkachenko, Yu. V. (2021). Basic scientific approaches to the interpretation of the concept of corruption. *Young scientist*, *3*(2), 290-295. https://doi.org/10.32839/2304-5809/2021-3-91-61
14. Mouselli, S., Aljazaerli, M. A., & Sirop, R. (2016). Corruption and stock market development: new evidence from GCC countries. *Business: Theory and Practice*, *17*(2), 117-127. https://doi.org/10.3846/btp.2016.555
15. Rivas, M.F. (2013). An experiment on corruption and gender. *B. Econ. Res., 65*(1), 10–42. https://doi.org/10.1111/j.1467-8586.2012.00450.x
16. Romanov, M. V. (2022). Corruption as compensation for the pathology of social relations. *Theory and practice of law, 1*, 52-68. https://doi.org/10.21564/2225-6555.2022.21.260039
17. Serzhanov, V.V., Dyachenko, T.A., & Abramov, F.V. (2022). Corruption, inefficient institutions and European integration. *Scientific Bulletin of the Uzhhorod National University. Series: International economic relations and world economy, 44,* 90-95. http://dx.doi.org/10.32782/2413-9971/2022-44-14
18. Setor, T.K., Senyo, P.K., & Addo, A. (2021). Do digital payment transactions reduce corruption? Evidence from developing countries. *Telematics and Informatics*, *60*, 101577. https://doi.org/10.1016/j.tele.2021.101577

19. Statistical information on the results of the work of specially authorized entities in the field of combating corruption and other state bodies. (2024). https://dap.nazk.gov.ua/

20. Swaleheen, M. (2011). Economic growth with endogenous corruption: an empirical study. *Public Choice, 146*(1), 23–41. https://doi.org/10.1007/s11127-009-9581-1

21. Zaporozhets, T., Khomiuk, N., Hanushchyn, S., Niema, O., Domsha, O., & Serhieiev, V. (2024). Innovative competences in public administration: The path to sustainable development, financial efficiency and strengthening of national security. *Edelweiss Applied Science and Technology*, *8*(6), 1421–1429. https://doi.org/10.55214/25768484.v8i6.2258

22. Zhang, M., Zhang, H., Zhang, L., Peng, X., Zhu, J., Liu, D., & You, S. (2023). Corruption, Anti-corruption, and economic Development. *Humanities and Social Sciences Communications*, *10*(434). https://doi.org/10.1057/s41599-023-01930-5

23. Zimelis, A. (2020). Corruption research: A need for an integrated approach. *International Area Studies Review, 23*(3), 288-306. https://doi.org/10.1177/2233865920926778

Грицишен Д., Токарчук О., Лукашук О., Соха С., Васильєв О.

НАПРЯМИ РЕАЛІЗАЦІЇ АНТИКОРУПЦІЙНОЇ ПОЛІТИКИ З МЕТОЮ ЗАБЕЗПЕЧЕННЯ ФІНАНСОВОЇ БЕЗПЕКИ ДЕРЖАВИ

Актуальність теми дослідження зумовлена високими показниками корупційних і пов'язаних із корупцією правопорушень і практично беззмінно низькою динамікою Індексу сприйняття корупції, що коливається в коридорі від 32 до 36 пунктів; така ситуація суттєво впливає на рівень фінансової безпеки цілої країни, отже, потребує керованого процесного підходу до антикорупційної політики. Метою стало побудувати цілісну функціональну модель, яка демонструє, як удосконалення формування й реалізації нових антикорупційних управлінських рішень може трансформувати вхідні дані у фінансові результати. Для цього застосовано методологію IDEF0 з інтерфейсами ICOM, використано ієрархічну декомпозицію від контекстної діаграми до підпроцесів другого рівня; визначено правила версійності, ряд ключових понять і вимоги до прозорості даних. У результаті було отримано модель A0 із декомпозицією на п'ять процесів від підтримання прийнятного рівня фінансової безпеки до оцінювання й коригування змін, для кожного процесу сформовано повні ICOM. Так, було описано підпроцеси A21-A23, A31-A32, A41-A43, A51-A53 й побудовано таблиці інформації про перебіг і директив регулювання таких процесів. Цінність проведеного дослідження полягає в тому, що воно переводить спочатку умовно позначений зв'язок між корупцією та фінансовою безпекою держави в чітко структуровану процесну модель подальшого ухвалення антикорупційних управлінських рішень. Запропонована функціональна модель може бути безпосередньо використана органами публічної влади й фінансового контролю для планування, координації та оцінювання результативності антикорупційних заходів. Отримані результати створюють методичну основу для подальших наукових досліджень і практичних реформ у царині протидії корупції та зміцнення фінансової безпеки держави.

Ключові слова: корупція, корупційні дії, антикорупційна політика, фінансова безпека, безпековий аспект, антикорупційні дії, функціональне моделювання

JEL Класифікація: D73, H26, H83

DOI: 10.55643/fcaptp.6.65.2025.5051