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Tools for Assessing the Effectiveness of Management Decisions in the Public Sector: An Analytical Approach

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Abstract

The growing complexity of socio-economic processes and the ongoing transformation of the public sector necessitate improvements in the quality and effectiveness of management decisions. However, the absence of well-established and methodologically consistent analytical tools for assessing such decisions complicates informed decision-making and limits the transparency and effectiveness of public policy implementation. Against this background, the development of a comprehensive framework for evaluating the effectiveness of management decisions is of significant theoretical and practical relevance. The aim of this study is to provide a theoretical foundation and develop analytical tools for assessing the effectiveness of management decisions in the public sector, thereby enhancing the quality and soundness of public administration processes. The research employs methods of analysis and synthesis, systemic

and structural-functional approaches, comparative and content analysis, economic and statistical methods, as well as generalization and scientific abstraction. The study reveals the theoretical and methodological foundations for evaluating the effectiveness of public-sector management decisions and systematizes scientific approaches to defining effectiveness while accounting for sector-specific characteristics. International experience in applying analytical assessment tools is generalized. As a result, an integrated analytical model for evaluating the effectiveness of management decisions is developed, key influencing factors are identified, and their impact is assessed. The proposed tools may be applied to monitor and evaluate public programs and policies and to support evidence-based public governance.

Keywords: public sector, management decision, efficiency, analytical tools, integrated models, assessment tools

1. INTRODUCTION

Systemic transformations taking place in public administration under the influence of decentralization, digitization of management processes, and the spread of results-oriented approaches are radically changing the content and quality criteria of management decisions in the public sector.

The effectiveness of management decisions in the public sector is determined based on a combination of theoretical principles of public administration, the latest concepts of performance management, and methods for determining policy returns. Management decisions in the public sector are interpreted as a deliberate choice of actions or strategies implemented by public authorities with the aim of achieving socially important outcomes and ensuring the effective functioning of state structures.

At the same time, public decisions are almost always made under conditions of limited financial and human resources, a rigid legal framework, and political compromises, which significantly narrows the room for maneuver. In a number of cases, this manifests itself in the fact that the option that is optimal from the point of view of public benefit gives way to a politically acceptable or legally safe decision.

In the scientific literature, public sector management decisions are viewed as a process that includes problem identification, analysis of variables, management decision-making, and implementation [1, 2].

The effectiveness of management decisions reflects the ability of public authorities to achieve socially important goals without undermining institutional foundations and democratic order. This view makes it possible to combine the need for efficiency with the expectations of citizens and political accountability, creating a more realistic and, at the same time, rigorous understanding of the nature of public administration.

As noted [3, 4], social, structural, and political outcomes should be taken into account when assessing the effectiveness of government decisions.

Scientific approaches to determining effectiveness can be broadly systematized into three groups:

1. Traditional economic approaches are based on the logic of the rational use of limited resources and are aimed at achieving the maximum possible result at a given level of expenditure. Within the framework of such approaches, efficiency is viewed through the prism of the ratio of invested funds to economic gains, which allows for the assessment of the feasibility of state intervention from the standpoint of financial soundness and productivity. That is why these tools have long remained fundamental in the analysis and evaluation of government programs in the economic and financial spheres, where preference is given to measurable achievements, budgetary discipline, and cost reduction while maintaining planned performance indicators.
2. Socially oriented methods focus on studying management decisions through the prism of their impact on the standard of living of the population.
3. Comprehensive methods assume a balanced system of indicators.

In domestic scientific discourse, the emphasis is consistently shifting to the specifics of the public sector as an environment for managerial decision-making, which differs significantly from the private sector. Ukrainian researchers draw attention to the combination of severe resource constraints, the political determinacy of management actions, and the increased social significance of each decision, the consequences of which often go beyond the scope of a single program or agency. Under such conditions, formal compliance with planned indicators cannot be considered an exhaustive criterion of effectiveness, as it does not reflect deeper transformations in the legal and institutional environment. Lozovsky and Gorshkova [5] advise taking institutional factors into account. This opinion is shared by Rovinska [6].

The theoretical model of evaluation is based on a systematic approach, which provides for [7]:

1. Defining the goals and expected results of a management decision.
2. Creating a system of key performance indicators (hereafter – KPIs).
3. Using analytical methods to justify management decisions.
4. Integrating them into the management decision-making process.

The conceptual model for evaluating the effectiveness of management decisions in the public sector is based on the principle of integrating quantitative and qualitative analysis methods, which allows the complex impact of economic, social, and institutional factors on the effectiveness of management actions to be taken into account. The model provides for the sequential interaction of the following components (Figure 1).

The block diagram provided emphasizes the need to align strategic objectives with resource and social aspects, as well as the importance of feedback in increasing the soundness of decisions.

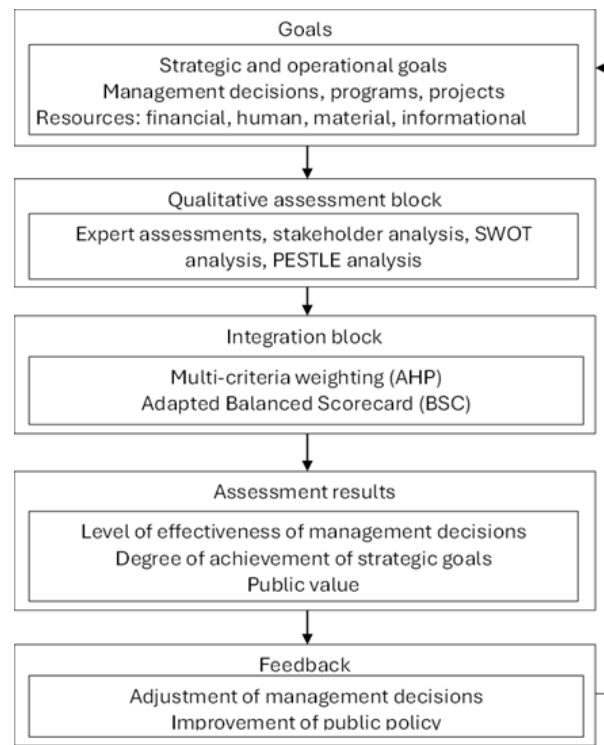


Figure 1. Conceptual model for evaluating the effectiveness of management decisions. Source: constructed by the authors based on [8, 9]

The significance of the achievements lies in the possibility of their application by public authorities to improve the effectiveness of management decisions and optimize the use of public resources. The integrated model makes it possible to plan, monitor, and evaluate management decisions based on economic, social, and institutional indicators, which contributes to greater transparency and accountability of government bodies. The guidelines provide a methodological basis for the introduction of modern analytical tools into public administration and the improvement of public policy.

2. LITERATURE REVIEW

The issue of assessing the effectiveness of management decisions in the public sector is widely covered in foreign and domestic studies. Foreign authors pay considerable attention to numerical methods of determining effectiveness, such as KPIs, balanced scorecards, cost-benefit analysis, and data envelopment analysis, which make it possible to standardize procedures for evaluating the effectiveness of management decisions.

In their works, Croitoru et al. [9] examined in detail the methods of assessing performance in administration, with particular emphasis on combining different concepts to measure the success of an enterprise. They studied the balanced scorecard (hereafter – BSC) as a means of ensuring a comprehensive review of the financial, operational, consumer, and training and development aspects of the work; key performance indicators (KPIs) that allow for the numerical assessment of the achievement of certain strategic objectives.

The study by Muhsyaf et al. [10] demonstrates the possibilities of integrating the Balanced Scorecard and the Analytic Hierarchy Process (hereafter – AHP) for a comprehensive measurement of the performance of public administration bodies at the local level. Satria et al. [11] summarized modern approaches to measuring the effectiveness of local self-government bodies and substantiated the role of integrated performance measurement systems in improving management capacity and the efficient use of public resources in the public sector.

According to the OECD [12], funding is a strategic tool that provides a direct link between the allocation of financial resources and the outcomes of public policy.

Van der Voet and Lerusse [4] examine how performance information, whether objective or subjective and depending on its origin, influences task prioritization and management decisions in the public sector, using an experimental methodology in local administrations. Appiah-Kubi et al. [13] focused on the importance of the emotional component of managers as a key factor that influences managerial effectiveness and affects the implementation of changes in the public sector.

Croitoru et al. [9] stated that tools such as KPI, Balanced Scorecard, and Strategic Performance Management (hereafter – SPM) define three main thematic groups: constructs, indicators, and strategic management. Nora et al. [14] emphasize that the success of the public sector encompasses strategic, institutional, and managerial aspects.

Al-Qarni and Al-Enazi [15] examine performance management in the public sector, in particular performance evaluation mechanisms and their impact on decision-making in public organizations. The article also examines the challenges of

evaluation systems and their application using the example of English emergency services. Iddrisu and Mohammed [16] examine how institutional culture affects performance in public institutions.

National studies on combining quantitative and qualitative measures of effectiveness in the public sector remain few and far between. There is a lack of comprehensive frameworks capable of combining analytical tools that take into account the specific characteristics of domestic public institutions, their structural features, multidimensional tasks, and civic accountability. Among other things, the practical implementation of existing approaches is largely limited, which reduces the ability to verify their effectiveness and adaptability to the actual working conditions of public authorities. This state of affairs highlights the need to develop robust methodologies that combine formalized measurements of achievements with a substantive assessment of the impact of management decisions on the community, as well as ensure comprehensive testing and improvement of analytical systems in the practical work of the public sector.

Lashchuk [17] studied modern approaches to assessing the effectiveness of public administration decisions. Parasiy-Vergunenko [18] proposes analytical indicators for assessing the effectiveness of public sector entities in Ukraine. Savchenko et al. [19] investigated approaches to determining the economic effectiveness of management decisions.

The scientific problem manifests itself in the absence of comprehensive analytical research. Existing approaches focus on individual measures of effectiveness, which limits the possibility of comprehensive analysis.

3. MATERIALS AND METHODS

The study is based on a systematic analytical method, which involves a step-by-step combination of theoretical analysis and methodological justification of analytical tools for evaluating the effectiveness of management decisions in the public sector. The main logic of the study lies in combining three levels of analysis:

1. Theoretical level – systematization of existing scientific approaches to assessing the effectiveness of management decisions, identification of key performance indicators and performance management methods, as well as evaluation of international and national experience.
2. Methodological level – the creation of an integrated analytical model for assessing effectiveness. The quantitative part of the model is based on the application of a system of key performance indicators (KPIs), multi-criteria analysis methods, cost-benefit analysis, and relative effectiveness analysis based on data envelopment analysis, which makes it possible to measure performance, compare alternatives, and find the best management decisions.
3. Empirical level – testing of the proposed model on specific objects in the public sector using collected statistical data, regulatory documents, and the results of content analysis.

Systemic and structural-functional approaches were used to study management decisions as components of a unified system of public administration. Comparative analysis was used to compare domestic and international examples of effectiveness assessment. Content analysis of regulatory and legal documents, program plans, and reports of government bodies made it possible to identify the main indicators of the accuracy of management decisions.

In the course of the investigation, a number of general scientific and professional methods were used, in particular: analysis and synthesis — to summarize the theoretical foundations for determining the effectiveness of management decisions in the public sector; systemic and structural-functional methods — to study management decisions as a component of a comprehensive system of public administration; comparative analysis — to compare national and foreign approaches to assessing the effectiveness of management decisions; content analysis — to study regulatory and legal acts, strategic documents, and reports of state authorities; economic and statistical methods — to analyze performance indicators and assess quantitative parameters of the effectiveness of management decisions; multi-criteria analysis methods — for a comprehensive assessment of the effectiveness of management decisions, taking into account economic, social, and institutional criteria.

4. RESULTS

Analytical tools for assessing the effectiveness of management decisions in the public sector include performance indicators, financial research methods, and consolidated performance management models. This approach ensures an understanding of the effectiveness of management decisions in the public sector [14].

With the aim of standardizing and structuring the analytical tools for assessing the effectiveness of management decisions in the public sector, the main methods and factors used at different levels of public administration have been summarized. Table 1 shows the hierarchical structure of analytical tools, their functional tasks, and the logic of the relationships among the strategic, tactical, and operational levels of management decision-making. This approach allows us to see the comprehensive nature of effectiveness assessment and shows the focus of each tool in the overall performance management system in the public sector.

Table 1. System of analytical tools for assessing the effectiveness of management decisions in the public sector

Assessment level	Specific methods	Object of assessment	Result
Strategic	Balanced Scorecard (Public Sector), Results-Based Management (RBM)	Public policy, development programs	Assessment of strategic goal achievement, policy adjustment
Tactical	KPI, performance indicators, CBA	Programs, projects, budget decisions	Determination of economic and performance efficiency
Operational	DEA, productivity ratios	Authorities, departments	Comparative assessment of resource use
Analytical support	Expert assessments, stakeholder analysis	Decision-making process	Identification of risks, conflicts of interest
External environment	PESTLE analysis	Political, economic, social factors	Adaptation of management decisions to the environment
Internal environment	SWOT analysis	Organizational capacity	Identification of strengths and weaknesses
Synthesis	KPI + CBA + DEA + expert assessments	Comprehensive management system	Evidence-based decision-making

Source: compiled by the authors based on [20, 21]

The set of analytical tools presented in Table 1 shows that effective evaluation of management decisions in the public sector is only possible if quantitative and qualitative approaches to analysis are combined within integrated management models. Table 1 illustrates that each tool performs a separate analytical role, while their combined work provides a comprehensive picture of the effectiveness, financial justification, and social impact of management decisions. The proposed classification ensures the systematic use of analytical data in the process of forming and implementing public policy. It contributes to increasing the transparency of management decisions and strengthening the accountability of public authorities through the clear structuring of assessment tools and the logic of their application.

The identification of leading indicators of the effectiveness of management decisions, taking into account economic, social, and institutional consequences, forms the necessary analytical basis for further systematization of assessment results. The generalization and structuring of these indicators logically lead to the development of a comprehensive analytical model for evaluating the effectiveness of management decisions, adapted to the specifics of the functioning of public authorities and aimed at a comprehensive combination of quantitative and qualitative parameters of management work [22].

To ensure a comprehensive approach to assessing the effectiveness of management decisions in the public sector, it is advisable to combine quantitative and qualitative methods of analysis within a single analytical logic. An integrated analytical model allows for the consideration of both the measurable consequences of government activities and the institutional, social, and contextual factors that influence the implementation of management decisions. To this end, Table 2 presents a system of analytical tools structured by functional blocks, as well as the logic of their integration into the effectiveness assessment process.

Table 2. Integrated analytical model for evaluating the effectiveness of management decisions in the public sector

Analytical tools	Key indicators/criteria	Analytical result
Quantitative analysis		
KPI (Key Performance Indicators)	Level of goal achievement, productivity, effectiveness	Quantitative assessment of the implementation of strategic and operational tasks
Performance indices	Comprehensive performance indicators	Comparative assessment between departments or territories
Cost-Benefit Analysis (CBA)	Cost-benefit ratio	Assessment of the economic feasibility of management decisions
Data Envelopment Analysis (DEA)	Input and output parameters	Determination of relative efficiency of resource provision
Qualitative analysis		
Expert assessments	Justification, policy compliance	Qualitative interpretation of decision implementation results
Stakeholder analysis	Level of influence and interests	Assessment of the social impact and legitimacy of decisions
SWOT analysis	Strengths and weaknesses	Identification of management reserves
PESTLE analysis	Political, economic, and social factors	Contextual assessment of environmental impact
Integration block		
AHP (Analytic Hierarchy Process)	Criteria weighting	Reconciliation of quantitative and qualitative results
Balanced Scorecard (BSC)	Financial, process, social, and management dimensions	Comprehensive assessment of the effectiveness of management decisions
Final result		
Integrated analytical conclusion	Effectiveness, efficiency, social value	Analytical basis for adjusting public policy

Source: compiled by the authors based on [23, 1, 9]

The integrated analytical model presented in Table 2 provides opportunities for synthesizing quantitative and qualitative methods for assessing the effectiveness of management decisions in the public sector, which ensures a multidimensional and well-founded analytical view of the consequences of management activities. The use of an integration mechanism allows for the harmonization of heterogeneous indicators and the formation of a comprehensive conclusion regarding the effectiveness and efficiency of public resource use and the creation of social value. Thus, the proposed model can serve as a methodological basis for improving the performance management system and enhancing the quality of management decisions made by public authorities [3].

To improve the effectiveness of management decisions in the public sector, it is necessary to systematically take into account the factors that influence their effectiveness, sustainability, and social value. The key groups of factors are summarized in Table 3. In addition, the corresponding assessment methods are presented, which allow for quantitative and qualitative analysis of the impact of each factor and its integration into a comprehensive analytical model.

Table 3 allows us to organize the factors that determine the effectiveness of management decisions and determine the priority of their impact. The application of these assessment methods ensures a comprehensive review of the consequences of management work, contributes to the improvement of the soundness of decisions, and lays the foundation for the implementation of a unified analytical model for determining effectiveness in government institutions.

It is advisable to assess the impact of these factors based on a combination of quantitative methods (correlation analysis,

index weighting, DEA) and qualitative approaches (expert judgments, stakeholder analysis, AHP). This combined approach makes it possible to determine the relative importance of individual factors, identify the main obstacles to effectiveness, and formulate analytical recommendations for improving management decisions in the public sector.

Table 3. *Factors influencing the effectiveness of management decisions in the public sector*

Group of factors	Specific factors	Assessment methods
Institutional	Existence of a regulatory framework. Clarity of powers. Coordination between authorities	SWOT analysis, expert assessments, documentary analysis
Organizational and managerial	Competence of personnel. Quality of strategic planning. Level of communication. Use of performance management systems	KPI, expert assessments, Balanced Scorecard, AHP
Resource	Financial support. Human resources. Information and technological resources	CBA, DEA, budget analysis, performance indices
Social and stakeholder	Stakeholder engagement. Public trust. Public support	Stakeholder analysis, surveys, expert assessments
External (environmental)	Economic conditions. Political stability. Socio-demographic trends. Technological changes	PESTLE analysis, expert assessment, scenario analysis

Sources: compiled by the authors based on [2, 8, 9, 24, 25]

5. DISCUSSION

Assessing the effectiveness of management decisions in the public sector involves the use of quantitative and qualitative assessment tools. Scientific studies show that classical economic tools, which focus only on optimizing resources, do not provide a complete picture of the effectiveness of management decisions. The results of this work are confirmed by research [3, 4].

It is crucial to systematically identify the main factors of management decision effectiveness. Combining quantitative indicators – such as data envelopment analysis (DEA), cost–benefit analysis (CBA), key performance indicators, and aggregate indices – with qualitative methods of expert assessment, stakeholder analysis, SWOT and PESTLE analysis, and hierarchical structuring (AHP) makes it possible to build a hierarchy of factors according to their level of influence. This method not only clarifies the relative importance of individual factors, but also allows us to identify the most important “bottlenecks,” which form the analytical basis for correcting management decisions and increasing their actual effectiveness.

In conclusion, it should be noted that the tools for evaluating the effectiveness of management decisions highlighted in this paper form the scientific and methodological basis for the growth of the performance management system and the improvement of evidence-based policy.

6. CONCLUSIONS

A systematic analytical review of foreign and domestic scientific achievements was carried out, which made it possible not only to summarize the most effective methods and means of evaluating management work, but also to identify a number of unresolved issues that await more in-depth study in the field of determining the return on management activities. The generalization of the conclusions obtained formed the basis for the formation of scientifically sound recommendations for improving the system of evaluating government decisions aimed at increasing the transparency of management processes, strengthening the accountability of public authorities, and increasing the effectiveness of state institutions. Referring to international and Ukrainian scientific literature made it possible to build a comprehensive picture of contemporary approaches to assessing the effectiveness of management activities.

The works of foreign and domestic scientists show a gradual shift away from narrow formal criteria in favor of thorough analytical models, in which management activities are evaluated in relation to the institutional level and social outcomes of the decisions made.

The scientific novelty of the development lies in the creation of an integrated analytical model for assessing the effectiveness of management decisions in the public sector, which combines quantitative and qualitative methods of analysis and takes into account the economic, social, and institutional aspects of the activities of public authorities. The study identifies the main factors influencing the effectiveness of decisions – institutional, organizational and managerial, resource, social, and external – and proposes a methodology for assessing their importance using integrated analytical approaches. A particularly novel feature is the adaptation of the concept of the Balanced Scorecard and multi-criteria analysis (AHP) to the specifics of the public sector, which provides a comprehensive, multidimensional assessment of the effectiveness of management activities.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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DATA AVAILABILITY

The data supporting the findings are available from the corresponding author upon request.

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