

Challenges in Measuring the Effectiveness of Public Organizations: A Review of Selected Models

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Abstract— Against the backdrop of a turbulent environment and changing economic, social, and technological realities, public sector organizations are facing the challenge of improving the effectiveness of their operations.

The concept of New Public Management (NPM), drawing from private sector solutions, has significantly contributed to the reorganization of public administration through workforce reduction, decentralization, and privatization, with a focus on performance management.

Academic literature continues to seek answers regarding the internal and external conditions for measuring effectiveness in public institutions, including higher education institutions.

A particularly important role in the public sector is played by Business Environment Institutions (BEIs) – non-profit entities that bridge the gap between market mechanisms and public administration activities, becoming partners in the achievement of public goals.

This article aims to identify and critically assess models for measuring the effectiveness of public organizations that can be adapted to evaluate the performance of public Business Environment Institutions. The analysis is based on theoretical perspectives, such as structural contingency theory and new institutional organization theory, in order to explain both the diversity and the tendency towards isomorphism in the institutions under consideration.

Keywords— management, Business Environment Institution, public organization

I. INTRODUCTION

Over the past few decades, public sector organizations have faced challenges arising from a turbulent environment. New economic, social, and technological realities pose significant challenges to the effective functioning of public organizations. The concept of New Public Management (NPM) has played a major role in the reorganization of public administration through workforce reduction, decentralization, and privatization (Hood, 1991). The essence of NPM lies in improving the functioning of public administration by applying solutions proven effective in the private sector. The foundation of the NPM concept is the implementation of business models aimed at improving the quality of public services (Gruening, 2001; Wodecka-Hyjek, 2023). According to the new public management approach, the functioning of public organizations is primarily oriented towards achieving specific outcomes through performance management (Gębczyńska, Brajer-Marczak, 2020). The pursuit of improved efficiency is therefore aligned with the goals of public administration (Carmona, Grönlund, 2003; Yuan et al., 2009).

The literature is dominated by a normative approach aimed at improving the functioning of the public sector, particularly public administration and higher education institutions. Researchers focus on explaining the analytical and theoretical aspects of public sector functioning. There is still an ongoing



search for answers regarding the internal and external conditions that influence the measurement of effectiveness in public sector institutions.

Business Environment Institutions (BEIs) are non-profit entities that do not operate for profit or allocate profits to statutory purposes. BEIs fill the gap between market mechanisms and public administration activities. They have become partners in achieving public goals, not merely executors (Gródek-Szostak, 2017). Among BEIs, one can distinguish innovation centres and entrepreneurship centres operated by public and private entities (Gródek-Szostak, 2023; Gródek-Szostak et al., 2020). A special category of BEIs includes public centres co-financed with public funds.

As a starting point for further analysis, two partially overlapping theoretical perspectives will be used: structural contingency theory and new institutional organization theory. Structural contingency theory (Donaldson, 2001) explains the heterogeneity of organizations, while new institutional theory (Powell, Bromley, 2015) is often used to explain why organizations become isomorphic.

The aim of this article is to identify and critically evaluate models for measuring the effectiveness of public organizations that can be applied to the evaluation of public Business Environment Institutions.

II. LITERATURE REVIEW

An analysis of the academic literature on the functioning of public organizations reveals that the universalization of the public and private sectors has become overly simplistic (Steccolini, 2019; Febriyanti et al., 2024). While the distinction between these sectors has indeed diminished (Bogt et al., 2015), researchers emphasize that the context of analysis should also include performance measurement (Rainey & Jung, 2015).

In the literature that focuses on public entities, performance measurement is often associated with operational aspects such as defining the object of measurement, developing/formulating performance metrics, data collection, data analysis, transforming data into information, and communicating with internal and external stakeholders (Eliuz et al., 2017; Van Dooren et al., 2015).

Based on a review of performance management in public administration, Gębczyńska and Brajer-Marczak (2020) identified three research areas: the first concerns methods of performance measurement, the second the use of performance measurement information, and the third the impact of performance management on outcomes.

The functioning of public administration is mainly evaluated in terms of the services provided and the level of financial resource utilization. Performance measurement and its management have become essential components in creating and extracting value over the long term (Gasparski, 2004). "Performance" is a complex concept that can be viewed from various perspectives (e.g., van Dooren, Bouckaert, and Halligan, 2010, pp. 16–20). It initially refers to the result of a

production process in which inputs are transformed through activities into outputs, ultimately leading to various outcomes. Moreover, performance can be seen as the realization of certain public values. It is associated with the "3Es" (economy, efficiency, effectiveness) and additionally with equity.

To ensure performance, it must first be measured and then acted upon to improve it. Performance measurement involves determining, estimating, and evaluating information about planned or achieved performance, which requires a set of performance indicators to be identified and measured. These indicators are considered relevant and useful by decision-makers in public sector organizations for a wide range of purposes, such as planning and control, learning, accountability, and evaluation, including reporting.

Performance management can be seen as a specific way of using performance measurement results for managerial purposes, such as planning and control. The main elements of performance management include defining performance indicators and analyzing deviations between planned and actual performance figures.

Every task related to performance measurement ultimately comes down to a cost-benefit analysis. Therefore, both the academic literature and business practice often directly refer to such analyses (Frączkiewicz-Wronka, 2010).

In their study, Boyne et al. (2006) discussed the concept of public sector performance from the perspective of productivity, productivity measurement and challenges, the performance environment, and presented practical models for measuring public sector productivity. Puhakka (2018) based his research on developing a performance management model at the enterprise level, involving the precise identification of general organizational goals and their sub-goals, the development of a practical mechanism and indicators for measuring performance, analysis of indicator results, overall performance evaluation, and the establishment of corrective actions to address weaknesses revealed after the measurement and evaluation processes.

Stenberg et al. (1982) proposed a comprehensive mechanism for the performance management process based on five main elements: performance planning at the organizational level through setting priorities, goals, and outcomes; performance monitoring through process tracking, adjustments, and feedback; performance evaluation by identifying gaps between planned and actual achievements; performance enhancement through incentives; and future performance development.

Poister and Streib (1999) proposed a performance management approach from a strategic management perspective, comprising four main aspects: strategic planning, results-oriented budgeting, performance measurement, and strategic measurement. These elements operate in a circular mechanism governed by organizational values, vision, and mission, and are monitored by internal and external actors.

Melkers (2006) proposed an approach to institutional performance management based on a performance and effectiveness model, which establishes a direct relationship between performance and inputs, the process of managerial actions within the organization, and the correlation between

performance and organizational outcomes and social impacts.

In the context of public organizations such as BEIs, it is important to consider their distinguishing characteristics. Notably, they lack typical market behaviours due to being publicly funded, have low motivation to reduce operational costs, and lack clear performance indicators that managers could use in decision-making processes. On the other hand, these organizations provide essential services that are often mandatory or unavoidable for citizens. Their effectiveness is also influenced by high managerial turnover due to term limits, which often hinders the implementation of plans and changes. Bureaucratic structures further limit employee innovation and creativity.

III. METHODS AND MATERIALS

A bibliometric analysis was conducted online using the keywords “performance measurement” and “public sector” in the Scopus database in March/April 2025. This initial search, without year restrictions, identified 1,876 documents. After narrowing the search to abstracts and selecting publications focused on “performance measurement for the public sector” and “the determinants,” the number of articles was reduced to 1,202. In the eligibility phase, 66 publications were selected that explore “performance measurement for the public sector” and “the determinants” from the perspectives of sociology, economics, and management.

Previous research has indicated that the exploratory use of performance measurement systems is conceptually linked to the interactive use of Simons’ (1990) framework and corresponds to strategy creation and goal communication (Hansen & Van der Stede, 2004), strategy management and learning (Franco-Santos et al., 2007), and the role of strategic decision-making (Henri, 2006). Most studies focus on the design and implementation of performance measurement models and systems, the responses of actors and organizations to performance measurement, and normative suggestions for improving practice.

The aim of this study was to identify differences in approaches to public sector performance management in the context of applying various performance measurement models that are relevant to the conceptualization of the issues discussed (Peticrew & Roberts, 2006), rather than to provide a comprehensive review of all empirical findings in the field. The selection of studies was based on two principles: the review was conceptual in nature and limited to articles published in peer-reviewed journals dealing with performance management in the public sector.

Performance measurement and management are relevant issues in both the private and public sectors. In the latter, however, the process is significantly more complex, as performance also includes numerous external factors and effects, such as the outcomes of policy implementation for specific target groups (Helden & Richard, 2013).

IV. RESULTS AND DISCUSSION

Measuring the effectiveness of public administration bodies first requires appropriate criteria to be defined. Two related but not entirely consistent models of organizational performance measurement were analyzed (Midwinter, 1994). The first model examined was the 3E model (i.e., economy, efficiency, and effectiveness), and the second was the IOO model (i.e., input, output, and outcome) (Boyne, 2002). A third model applied was the Balanced Scorecard (BSC).

The purpose of the 3E model is to support managers in assessing and subsequently improving performance. This model is based on three core concepts. The first is economy, which “is often equated with the level of expenditure on a service, but more precisely is defined as the cost of acquiring specified service inputs of a given quality” (Boyne, 2002). The economic criterion evaluates the cost incurred to obtain specific resources, expressed as the amount of money spent on services. This indicator should be minimized, assuming that the services meet quality standards.

Efficiency refers to achieving specific outcomes with minimal resource input, i.e., the optimal relationship between the expenditures made to achieve certain goals and the actual results obtained. Effectiveness, on the other hand, measures the extent to which the intended goals have been achieved.

The individual criteria in the model can be coherently combined, with efficiency being viewed as a hybrid of economy and effectiveness. Unfortunately, these three main parameters are not perfect, as they do not account for qualitative criteria, which are crucial for a comprehensive measurement of outcomes (see Table 1).

TABELA 1. 3ES MODEL

ECONOMY	EFFICIENCY	EFFECTIVENESS
Often equated with the level of expenditure on a service, it is defined as the cost of acquiring specific inputs for services of a given quality. This economic criterion evaluates the cost incurred to obtain specific resources, expressed as the amount of money spent on services. This indicator should be minimized, assuming that the services meet the required quality standards.	Effectiveness is a complex concept, defined in various ways and, especially in everyday understanding, associated with many synonyms such as efficiency, productivity, performance, competitiveness, functionality, or capability (Pyszka, 2015). The term most commonly refers to achieving specific outcomes with minimal resource involvement—that is, an optimal relationship between the expenditures incurred to achieve certain goals and the actual results obtained.	This refers to the measurement of the extent to which the intended goals have been achieved.
CRITIQUE OF THE MODEL		
Minimizing the consumption of resources required to	A lack of qualitative criteria, which is a critical issue in the	A lack of qualitative criteria, which is a critical

ECONOMY	EFFICIENCY	EFFECTIVENESS
develop the final product or service ensures cost-effectiveness, but it may also carry certain negative consequences reflected in the quality of the delivered products or services.	pursuit of comprehensive outcome measurement.	issue in the pursuit of comprehensive outcome measurement.

Source: own study

The essence of the IOO model lies in the assumption that resources allocated to individual entities are transformed—through the processes they implement—into specific outputs, which form the initial link in a planned results chain. This chain aims to meet societal needs by achieving outcomes in the medium term and impacts in the long term. The model replicates cause-and-effect relationships (known as the logical results chain), allowing for the identification of reasons behind the achievement of specific outcomes. The results chain can be analyzed in the context of three interrelated elements: the goal chain (main goal, specific goal, operational goal), the implementation chain (activities, processes, actions, sub-tasks, tasks, functions), and the effects chain (output, outcome, impact) (Kinyuira & Kenyatta, 2019).

Some scholars (Pollitt & Bouckaert, 2011) argue that input-output thinking can also be applied in public organizations, and that performance can be linked to public value. Public value may be reflected, for example, in improved living conditions for society as a whole, where public organizations create value by meeting citizens' needs.

In a critical assessment of the IOO model, it should be noted that it is fundamentally unbalanced, placing greater emphasis on the interests of external stakeholders than internal ones. As such, it does not take into account the satisfaction levels of either internal or external clients—where the latter is often defined by the former. It should also be emphasized that the IOO model is heavily focused on evaluating outcomes delivered to the client, understood as the recipient of administrative services. Moreover, the model marginalizes the role of the citizen. In light of the above, the model concentrates on assessing service quality rather than on the development of democratic standards (Boyne, 2002).

The third model discussed in the literature is the Balanced Scorecard (BSC). This model was developed to address the problems and limitations associated with relying solely on traditional financial indicators when management evaluates organizational performance (Kaplan & Norton, 1992). Its purpose is to integrate financial and non-financial indicators to counteract the historical (lagging) nature of most accounting measurement systems, along with their potential for manipulation by senior management, misrepresentation, and short-termism (Norreklit et al., 2008). Accordingly, the BSC model was designed to reduce excessive reliance on purely financial measurement systems in assessing organizational performance (Khomba, 2015).

In the critique of the model, it should be noted that the BSC is a rigid model because it is based on a top-down approach: strategies developed at higher levels cascade down to lower

levels of the organization. The model does not account for the fact that performance measurement can be a two-way process (Hudson et al., 2001). As a result, the BSC model lacks conceptual integration between high-level strategic scorecards and operational-level performance measures.

Moreover, the assumption that the perspectives in the BSC model have a linear cause-and-effect relationship may not hold true in real-world situations. The relationships between perspectives can also complicate the weighting of the perspectives themselves, as they cannot be ranked equally. It is not possible to determine the importance of any of the four perspectives without understanding the effects of the relationships between them (Leung et al., 2006).

There should be a clear distinction between performance indicators and the factors influencing performance. However, these measures do not reveal operational improvements that translate into business expansion and, ultimately, financial indicators (Leung et al., 2006).

V. CONCLUSION

The literature on public sector performance measurement does not include many efforts aimed at explicitly exploring and comparing theory and practice. Discussions on performance measurement are conducted mainly at the organizational level, while the individual also influences the outcome of adopting performance measurement. Developing an appropriate method for measuring the effectiveness of public institutions is a key objective of New Public Management. Indicator-based methods, often used by public authorities, do not provide a sufficiently broad approach to inputs and outcomes, which should be considered in performance measurement.

The vast majority of studies identified in the literature focus on the design and implementation of performance measurement models and systems, the responses of actors and organizations to performance measurement, and normative suggestions for improving practice—for example, in public administration or higher education institutions. It is not possible to directly transfer and apply performance measurement indicators from public administration to Business Environment Institutions (BEIs), which are not public administration entities, although they often operate in its environment and may act as its partners.

Public sector organizations operate in an increasingly dynamic and complex environment. New economic, social, and technological realities pose ongoing challenges to their effective functioning. This implies that public institutions must be flexible and capable of continuous adaptation in order to meet growing expectations and effectively fulfill their missions.

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