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Performance measurement in local government: A systematic review towards efficient public sector management

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Abstract

This research systematically reviews the literature on local government performance measurement. It identifies current trends in research and highlights areas with promise for future studies. We have narrowed down 77 sample articles on local government performance measurement from 1271 Scopus-indexed papers with a minimum quality of quartile 4. From the publication trend, we can see that urban governance performance measurement has caught researchers' attention in recent years. Some of the key findings include differences between measurement methods, areas or objects of study, and research themes. Themes identified in the research comprise local government implementation, measurement concepts and their indicators development, sustainability/SDGs, adoption in HR and administrative sectors, adoption in smart government/egovernment, adoption in economic and financial sectors, adoption in the socio-cultural sector, and integration with other methods. This study provides important perspectives on the development, exposures, and critical drivers needed in the current scenario of local government performance measurement. Practical implications of this work contribute to creating a more location-sensitive, adequate, and effective performance measurement system for local policymakers and administrators. This article also outlines future research directions, including building integrated approaches, processes, and technologies; adapting the BSC; assessing the effectiveness of the methods; designing performance models at the regional level; and SDG implementation in local government. This review not only reports on the latest developments in performance measurement in public sector performance management but also helps prepare for future explorative and developmental efforts in public performance.

Keywords: Local governance literature review strategic, Performance assessment, Performance measurement.

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Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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1. Introduction

Performance measurement is a key mechanism for assessing the performance of organizational actions within an organization. Its purpose is to monitor progress regularly over both short and long terms, as well as to report results to decision-makers to improve the fulfillment of program outputs [1]. Sustainable competitive advantage is a set of tools for systematic evaluation and performance measurement [2]. Accurate evaluation and performance-based future visibility systems enable organizations to measure their own performance, which forms the basis for decision-making [3].

Besides, a large number of methodologies and techniques for organizational performance measurement have also been developed, such as: Data Envelopment Analysis [DEA], Balanced Scorecard (BSC), Performance Prism (PMS), European Foundation for Quality Management (EFQM), Multi-Criteria Decision Making (MCDM), Ratio Analysis, and the Government Performance and Results Act (GPRA), among others. In these methods, the most popular approach currently used is the Balanced Scorecard (BSC). It is a strategic planning and management tool to align the operations of an organization with its strategy [4]. The Balanced Scorecard (BSC), as an integrative tool, has been widely used for efficient implementation across various sectors and organizations. It encompasses four key dimensions: financial, customer, internal process, and learning and growth [5], providing a balanced perspective. It also enables the measurement of goal achievement from different viewpoints, offering a comprehensive view of organizational performance. This holistic approach encourages organizations to engage in long-term planning and adapt to environmental changes. Although BSC is one of the most popular performance measurement tools, it can be complex to implement effectively without careful management, requiring commitment from all levels of the organization from top to bottom [6]. Using this perspective, BSC provides an understanding of the whole and enables organizations to evaluate critical aspects through a balanced view.

Government organizations are crucial in the delivery of public services and the efficient utilization of public resources. Given the mounting societal demands and the more volatile dynamics of these demands, the performance of government organizations must be learned and understood in order to improve. Lehmann and Menter [7] performance assessment is a central and critical key to ensuring governmental objectives are met in delivering public services and performing them effectively.

When we talk about local government, performance measurement is not just another check box of bureaucratic procedure but a fundamental public accounting, service enhancement tool, and clearly articulated governance [8]. Local governments, in particular, have their performance directly connected to the everyday and monthly lives of the people they serve; this, in turn, influences public trust and satisfaction [9].

However, local governments confront some difficult issues in measuring performance. Local governments are discretionary in nature; they not only face the fiscal challenges encountered by state and federal governments but are also influenced by incentives related to service provision, which compel them to offer better services while utilizing public funds efficiently [10]. Such complexity should dictate the existence of performance measurement frameworks above traditional financial indicators, but addressing more inclusive outcomes [11]. Moreover, the performance management systems of local governments are affected by different political, economic, and cultural contexts [12].

Purpose of Review: This systematic literature review will identify, catalogue, and survey current research on performance measurement in local government to ensure a timely and comprehensive database that can be exploited in this field.

So far, the literature on local government performance measurement has been scarce, as there are important gaps in knowledge and the development of methods that apply to fields and contexts conducive to a composite performance measurement.

As such, this research aims to explore the existing literature on performance measurement in local government organizations and to identify gaps that could be addressed in future studies.

This research aims to provide better insights into performance measurement in local government organizations, with the potential to assist them in adopting more effective, efficient, and comprehensive performance measurement strategies.

2. Method

A bibliometric conceptual review was conducted on the literature relevant to the study's subject to achieve the research objectives. The bibliometric approach employed both qualitative and quantitative tools to filter information sources,

including journals, books, and conference papers. This method was used to assess and evaluate these sources, ultimately involving an analysis of the quantity and quality of the sources' publication patterns over time, publisher presence, quality assessment tools, research strategies employed, and topic measures of studies.

This research aims to study top and recently published journals on the performance measurement of local government organizations. The research methodology was modified according to the approach used in previous studies. (2559634799) With some modifications to fit the specific characteristics and requirements of the present study.

2.1. Literature Search Strategy

A systematic review was performed on the Scopus database to help with a thorough search in high-quality articles, Journals of Q4, Q3, Q2 and Q1. This search strategy was formulated to specifically identify recent literature from the last decade (2014 to 2023) with specific emphasis on measurement and evaluation of government/local government performance.

Boolean search strings were generated to capture the following keywords and phrases that we wanted to include in the search for relevant studies:

- 1. "Performance measurement" AND "government" resulted in 656 articles.
- 2. "Performance evaluation" AND "government" resulted in 959 articles.
- 3. "Performance measurement" AND "local government" resulted in 118 articles.
- 4. "Performance evaluation" AND "local government" resulted in 126 articles.
- 5. "Performance measurement" AND "municipal government" resulted in 76 articles.
- 6. "Performance evaluation" AND "municipal government" resulted in 27 articles.
- 7. "Performance measurement" AND "district administration" resulting in 13 articles.
- 8. "Performance evaluation" AND "district administration" resulted in 19 articles.

The above-listed total number of publications was 1,954. To highlight the novelty and relevance of the literature to the proposed approach, the selection was performed using the Power BI application for article filtering.

2.2. Selection Criteria

The process was carefully designed to include the most noteworthy and impactful studies, as we have identified. To apply the inclusion and exclusion criteria, the following were used.

2.3. Inclusion Criteria

- 1. Date Published: Recent studies only include key information from publications between 2019 and 2023, totaling 1,271 documents.
- 2. Accessibility: Only documents with a Digital Object Identifier (DOI) and that are freely accessible were included. The dataset was pruned to 1,198 articles based on this criterion.
- 3. Credibility and Rigour: Only peer-reviewed journal articles were considered, as they ensure credibility and possess a higher level of quantitative support, thereby ensuring the robustness of conclusions 909; book series/proceedings/trade journals and other irrelevant categories were excluded.
- 4. Topic: Limited to studies that contained the title or abstract text indicating an interest in the performance measurement and evaluation of local governments. A preliminary source of 424 articles was formed by using the search.

2.4. Exclusion Criteria

- 1. Foreign Languages Subject: Only publications not available in English were excluded, as the analysis and synthesis were constrained by translation. This left 25 articles in foreign languages, including Spanish, Chinese, Portuguese, and Polish.
- 2. Duplicate studies: The most comprehensive and recent article with a complete version was retrieved when reviewing the search results across databases for each search and database. This excluded a single 399.
- 3. Citation Count: A minimum citation count of 5 was established to ensure article-level quality. This step eliminated 215 articles, leaving 111. Destinations: Articles not focusing on performance measurement or evaluation at the local government level were removed.
- 4. Systematic review: a detailed examination resulted in 34 irrelevant articles and 77 relevant core articles focused for in-depth analysis.

Systematic application of these criteria to all potentially relevant studies identified through the search ensures a focused and relevant body of literature capable of providing insights into performance measurement and evaluation in local government.

2.5. Data Extraction and Synthesis

The processes of data extraction and synthesis were carried out manually to provide a comprehensive description of the findings from the identified studies in order to capture all relevant information. This was followed by the subsequent steps:

2.6. Data Extraction

1. Information Categorization: from every identified and selected study, key information was extracted, such as authors, publication year of the study, performance measurement strategy/methods selected for this study's purposes,

- aims/research questions; methods used in literature (main themes/findings). This approach follows the methodology of Nurindrasari et al. [13] to provide clear and complete data categories in the studies conducted.
- Data Tabulation: The extracted data were organized in a structured table format that permitted a more systematic and unbiased view of each study. This facilitated the identification of patterns, methods, themes, and oversights in the literature.
- 3. Cross-Study Comparison: Differences and similarities between studies were examined to identify emerging patterns in findings, methodologies, or theoretical orientations.

2.7. Synthesis Approach

- 1. Thematic analysis The primary aim of this method was to identify key themes and patterns through existing literature, which was classified into subheadings. As seen in studies like [15] this method provided a broader insight into the phenomena and trends in a field [11].
- Meta-Synthesis: Meta-synthesis was performed with the analysis of quantitative studies, thereby providing an improved level of abstraction and interpretation. This approach was effective for synthesizing findings from various methodological and contextual sources.
- 3. Comparative Dataset: Cross-study comparison of performance measurement and evaluation for different local government contexts (e.g., consider methodologies used in) [14].

Synthesis process by synthesizing findings from individual studies, a consolidated knowledge of performance measurement and evaluation in local government was aimed. This meant the careful appraisal of evidence, the identification of general themes, and the drawing out of the combined insights from literature. This synthesis allowed for a stronger knowledge base to be developed and provided an integrated perspective on the research question under study.

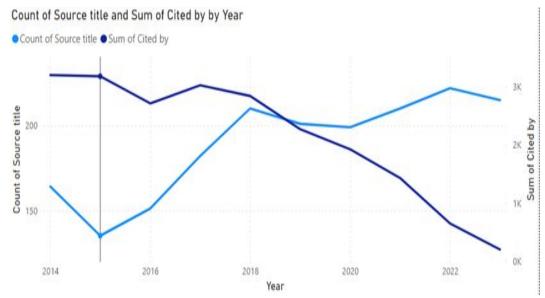


Figure 1.
Chart Trend Publication Topics- 10-year Government Performance Measurement final.

3. Results and Discussion

3.1. Trend of Publication Topic: Government Performance Measurement 2014 – 2023

In Figure 1, the performance measurement and evaluation in governance are displayed, focusing on the type of scientific studies published during the decade from 2014 to 2023. The graph shows an increasing trend in publications within the public domain, accompanied by significant volatility in certain years. Notably, there was a decrease in 2015 and a dip in 2020. Additionally, the citation counts for literature on performance measurement and evaluation in governance declined sharply towards the end of this period. This suggests that newly published papers do not receive many citations, primarily because they are overshadowed by studies published more than five years ago.

This decrease in citations can be attributed to the amount of research conducted from 2019 to 2022, which was closely aligned with COVID-19 topics. As the pandemic receded, research interest shifted away from COVID-19, and during this period, studies related to the pandemic became less relevant as references for performance measurement and evaluation, general research, and not pandemic-related.

3.2. 10-year Publisher Most in PeerTopics Cover San 10 Study Final Mean

Since the last decade, scientific publications on performance measurement and evaluation studies in governance have been published in many countries, but the leading publishers are Elsevier Ltd (81 Titles; Figure 1). Key additional publishers include Routledge with 52 titles, Emerald Group Publishing Ltd 48 titles, MDPI 48 titles, Springer Science and Business Media Deutschland with 28 titles, Springer (26), Hindawi Limited (24) Elsevier B. V. with (23) the Institute of

Electrical and Electronics Engineers Inc. (IEEE) with 21 Titles and MDPI AG (21). Figure 2a presents the contributions in detail, representing the above cards of.

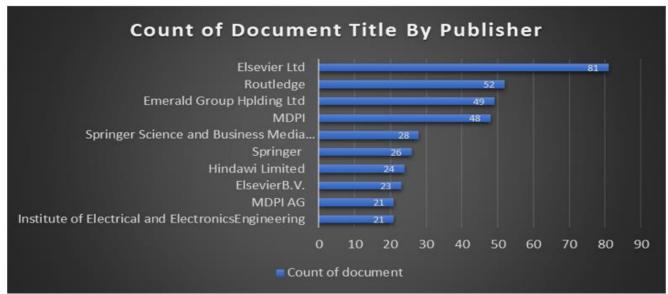


Figure 2a.
Top Ten Publishers.

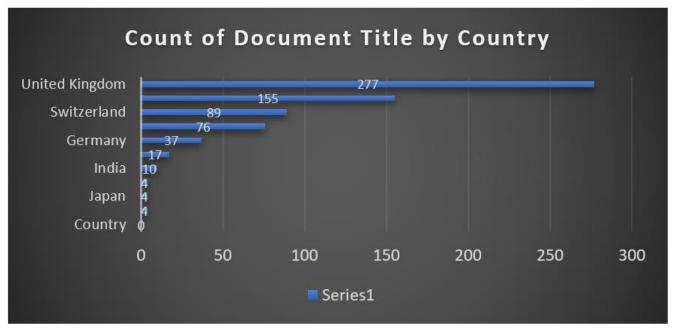


Figure 2b.Top Ten Citizenship Chart Publisher

Looking at Figure 2b, the top ten publishers are mostly located in the UK, followed by the US, Switzerland, and the Netherlands. This reflects the keen interest and popularity of research publications on performance measurement and evaluation in government organizations within academic institutions of the United Kingdom, the USA, and other developed countries across various Western European nations.

3.3. Performance Measurement/Evaluation Methods Used

The methods for measuring or evaluating the performance of local governments identified in this research can be categorized into thirteen types:

- 1. Balanced Scorecard (BSC): Based on four distinct perspectives, financial, customer, internal processes and learning and growth.
- 2. Results-Based Performance Measurement (RBPM): The development of a measurable life that programs or policies deliver tangible results.
- 3. Benchmarking: Metrics for governmental performance against goal standards or international best practices at the national or international level.

- 4. Key Performance Indicators (KPIs): Measuring with pre-determined performance indicators the attainment of specific goals.
- 5. Customer Satisfaction Surveys (CSS): Determine the satisfaction level of the public with government service.
- 6. Employed for measuring the efficiency of a unit, Data Envelopment Analysis (DEA).
- 7. Performance Prism (PMS): To provide a comprehensive and holistic view of organizational performance, emphasizing stakeholder empowerment and long-term value creation.
- 8. EFQM (European Foundation for Quality Management): Provides a performance evaluation of the organizational framework.
- 9. RA (Ratio Analysis): Using a series of financial ratios to gauge work unit performance.
- 10. Participatory Evaluation (PE): by stakeholders affected by conditions in government service.
- 11. Government Performance and Results Act (GPRA): focused on strategic generation and results in governance.
- 12. Social Return on Investment (SROI): focusing on measuring the effects of governmental policies and programs
- 13. Open Government Initiatives (OGI): Levels of transparency, public participation & governmental accountability

It is to be noted that some of the articles may be mixed approaches or completely omit methods, as seen in literature reviews.

Table 1. Classification of Performance Measurement Methods.

No	Performance Measurement Methods	Number of Articles	Percentage
1.	Balanced Scorecard (BSC)	4	4.8%
2.	Results-Based Performance Measurement (RBPM)	22	26.2%
3.	Benchmarking	1	1.2%
4.	Key Performance Indicators (KPIs),	12	14.3%
5.	Customer Satisfaction Surveys (CSS),	11	13.1%
6.	Data Envelopment Analysis (DEA)	6	7.1%
7.	Performance Prism (PMS)	8	9.5%
8.	European Foundation for Quality Management (EFQM)	1	1.2%
9.	Ratio Analysis (RA)	6	7.1%
10.	Participatory Evaluation (PE)	2	2.4%
11.	Government Performance and Results Act (GPRA)	2	2.4%
12.	Social Return on Investment (SROI)	4	4.7%
13.	Open Government Initiatives (OGI)	5	5.9%
	Total	84	

Table 1 shows the distribution of performance measurement methods employed by the studies reviewed. Of these, 22 articles (26.2%) used tangible Results-Based Performance Measurement (RBPM), and another 12 (14.3%) relied on the Key Performance Indicators (KPIs) approach. Another 11 articles (13.1%) conducted Customer Satisfaction Surveys (CSS) and used the Performance Prism (PMS) framework. Very exclusively and basically exceptionally, 6 articles (7.1%) used Data Envelopment Analysis (DEA).

Other techniques included: Ratio Analysis (7.1%), Open Government Initiatives (OGI) (5.9%), Balanced Scorecard (BSC) (4.8%), SROI (4.8%), Participatory Evaluation (PE) (2.4%), Government Performance and Results Act (GPRA) (2.4%), Benchmarking (1.2%), and the European Foundation for Quality Management (EFQM) (1.2%).

Here, the distribution demonstrates the wide variety of methodologies that researchers use to illustrate what is being measured at local governments. Additionally, some studies combine two or more methods for the purpose of deeper analysis.

3.4. Research Methods Used

Article: The local government performance measurement articles are examined in eight distinct categories based on [15].

- 1. Conceptual Methods: Perform fundamental studies and frameworks associated with performance measurement.
- 2. Descriptive Methods: Documents the performance measurement practices and/or implementation.
- 3. Exploratory Methods: Conducts primary data collection using surveys, focus group sessions and expert interviews to report findings on specific phenomena.
- 4. Empirical Methods: Specifies numerous statistical tests and second-hand data sources.
- 5. Case Study Methods: Provide examples of performance measurement tools used in specific organizations.
- 6. Experimental Methods: Set up controlled environments to test and analyze conditions affecting performance.
- 7. Literature Reviews: Comprehensive Reviews of Previous Studies on Performance Measurement
- 8. Explanatory Methods: Examine relationships among factors that influence performance measurement outcomes.

Individual studies may adopt mixed methods and therefore are classified under multiple methodological categories. This diversity reflects the wide range of measures researchers use to examine and interpret performance measurement studies in local government contexts.

Table 2. Classification of Research Methods Used in Articles.

No	Method	Number of Articles	Percentage
1.	Review literature	6	4.4%
2.	Experimental	2	1.4%
3.	Descriptive	9	6.5%
4.	Conceptual	12	8.8%
5.	Explorative	26	18.2%
6.	Empirical	24	17.5%
7.	Case study	32	23.1%
8.	Explanatory	28	20.1%
	Total	139	100%

Table 2 shows the classification of research methods used in the research papers presented. The results indicate a wide scope of the variety that exists in the subject, which suggests that one study has employed with different methodologies. 1) Case Study Method used in 32 articles (23.1%), 2) Explanatory Method used in 28 articles (20.1%), 3) Exploratory Method used in 26 articles (18.2%), 4) Empirical Method used in 24 articles (17.5%), 5) Conceptual Method found in 12 articles (8.8%), 6) Descriptive Method used in 9 articles (6.5%), 7) Literature Review in 6 articles (4.4%), and 8) The Experimental Method was applied in 2 articles (1.4%).

The diversity in these different research methodologies points towards the wealth and complexity of research dimensions for understanding and measuring local government performance. Diversity indicates the need for detailed and globally expert approaches to broaden perspectives on this matter.

3.5. The Research Topic in Brief

Based on the framing [15] we sorted the reviewed articles into eight central themes in relation to our research questions as follows within our revised approach by modifying [15].

Theme 1: Implementation in Local Governments. At the theme level, this is performance measurement implementation by all local governments and can be grouped into three:

- a) For example, (Chen et al. [16] By comparing urban performance with benchmark indicators across time and space, we used a hybrid method in (2023).
- b) Debate in local governments about performance measurement consequences Some studies identify the effects or outputs of performance measurement where, e.g., Yetano et al. [17] researched (In the case of Yetano et al. [17] performance measurement and management systems (PMM), how they affect performance in local government Japan [18] to compare the effects of scorecard initiatives on service delivery and citizen perceptions of parliamentary performance in Uganda; Deni et al. [19] Tidore City Indonesia using a quasi-RCT design, evaluated by providing various intervention strategies for implementation barriers relating assessment of SAKIP implementation and finally [20] the spatial dependencies among neighboring local governments, what factor most affects the efficiency of public service provision, particularly in the waste management sector affecting 4,250 local governments in Italy
- c) Performance measurement Factors influencing implementation of Some studies try to understand what factors drive performance measurement, for example in Narbon-Perpina et al. [21] who determines the effect of relevant environmental aspects on local government efficiency during the years of Spain's economic crisis; (2022) and who found that measurable goals as well as training for employees in performance measurement systems boost results reporting; Krishnamurthy et al. [22]; the organizational technical and external factors influencing performance measurement data collection[see [23] how power, communication, and learning tendencies shape the heterogeneity in implementing performance measurement systems.

Theme 2: Implementation within the operational and administrative system of local government. The local government performance measurement is outlined as another theme concerning the assessment of employee and governance administration performance. Dimitrijevska-Markoski and French [24] and Han and Hong [25] discuss performance information use and performance measurement in the U.S. federal government through the Information-Based Performance Measurement (IBPM) Model. Their research showed that the institutionalization of performance measurement, as well as the adequacy of the design of a performance measurement system, is positively related to the use of performance information. Meanwhile, Han and Hong [25] showed that different performance information uses voluntary, semivoluntary, and compulsory methods, which affect how performance information is used. Sifah et al. [26] found that blockchain systems application solves security problems in the employee performance appraisal system. These systems provide solutions for trust, privacy, accountability, and transparency in performance evaluations that take place in City 2.0 environments. Febriyanti et al. [14] showed that the use of e-Lapkin applications for Palembang, Indonesia provides accessibility, develops cost saving and real-time performance reporting. Gabriel and Villaroman [27] identified the challenges in the implementation of employee performance measurement in Nueva Ecija, Philippines, such as performance appraisals and ranking, data interpretation, and reporting. In contrast, Lee and Rhee [28] high productivity and workplace performance reduction for underperforming employees by eliminating those directly dismissed with formal Improvement Plans (PIPs) is the most effective U.S. federal government policy. The use of performance assessments for reallocation resulted in an additional underperforming employee in units. These wage increases, as we shall show, are coherent with the issue of performance.

Theme 3: Smart Government: The Foundation of E-Government and Smart Governance. This theme focuses on performance measurement initiatives for e-government and smart governance [29] derived from 3-fold reading which utilizes six key perspectives in the EFQM framework, effects via classification sinks toward unsatisfactory overall performance by anonymous service availability, sluggish information quality, and misfortunes caused by risky threats. Argento et al. [30] developed a performance measurement framework for smart government programs in smart city programs, while Herdiyanti et al. [31] built a model of smart governance performance with smart government performance indicators. Twenty-nine KPIs are divided into three dimensions and seven aspects in Indonesia.

Theme 4: Implementation in the Economic and Financial Sector. Shim and Kim [32] prioritized local investment projects by applying efficiency analysis and the Analytical Hierarchy Process in South Korea for the improvement of their investment projects. Other hand, Purwohedi and Gurd [33] have investigated the performance of the community waste management project system in local governments via the application of Social Return on Investment (SROI). D'Inverno et al. [34], the performance of local governments in supplying public goods with ratio analysis [35, 36] - applied performance measurement at the local tax admin in Dallas, USA, and different kinds of provinces in Spain. Jiang and Deng [37] investigated local government performance in the tourism sector at the provincial level through participatory evaluation methods throughout China, and Pornprasit and Rurkkhum [38] conducted customer satisfaction surveys in Satun province, Thailand. Gao et al. [39] study on marine eco-economic systems governance performance within 11 coastal provinces and cities of China. Their study indicated that governance performance decreased over time as endogenous transaction costs and general transaction costs, as well as social investment, increased with each other and the passing of time.

Theme 5: Socio-Cultural Sectors Implementation Theme. A theme that looks into the performance measurement of socio-cultural sectors. Schulz et al. [40] used QFD-based performance measures for cultural complexes and Montalto et al. [41] used the Cultural and Creative Cities Monitor (CCCM) to analyze cultural vitality in European cities. lo Storto [42] has studied local government performance in an Italian context through DEA, and it was demonstrated that there are no trade-offs between efficiency and effectiveness dimensions.

Theme 6: SDGs (Sustainability). Most studies on the influence of performance measurement of local government on the aspects of SDGs are specifically focused. Among these studies, Yu [43] compared Taiwan's Sustainable Development Goals (SDGs) across 19 local jurisdictions based on Minimum Distance-Based Additive DEA as the efficiency of the Administrative Region. The results suggested that Taiwan supervise average SDG efficiency is decreasing in the last three years, but the types of regional inefficiency are different inferred from industrial structure. Alpenberg and Wnuk-Pel [44] in their research on sustainability strategies and also the shift towards performance measurement systems (PMS) in Växjö, one of the most sustainable municipalities in Europe. This was also found in the study, with the multiple stakeholders -politicians and local-government executives in this case -- revealing layers of motives behind the development of PMS. The system serves as a kind of symbolic means to inform and advertise greening approaches to your residents, as well as lots of businesses in this territory. Park and Krause [45] illuminated the ability of performance management indicators and instruments for sustainable performance assessment in the United States among local governments at a more systemic level through the Performance Management in Sustainability Initiatives (PMSI) framework. Caldas et al. [46] introduced a Municipality Sustainability Index (MSI), comprising 25 indicators organized in four performance dimensions: financial sustainability, financial performance, community sustainability, and governance, to Lisbon and its sub-regional Lezíria do Tejo in Portugal. Developed a Multi-Actor Multi-Criteria Analysis (MAMCA) model [47] to appraise the Implementation of SDG 11 at the local government scale in Brazil. Likewise, Deslatte and Stokan [48] examined strategic management approaches on local governments' sustainability capacity in the United States through the Government Performance and Results Act for the years (GPRA) institutionalized frame. Finally, Diao et al. [49] studied the urban comprehensive supporting capacity of the Harbin area in Heilongjiang Province needed for sustainable growth. Through index weight analysis, Harbin is still following extensive development, weighted on scale-up and total growth, with limited focus on more effective resource utilization. The new regional development agenda at the heart of this is damaging the resource and environmental bases.

Theme 7: Development of performance measurement concepts for local governments. This theme is focused on the transformation of performance measurement systems suitable for regional dynamics and individualities. Kamensky [50] conducted research on the evolution of performance management practices within federal government agencies in the US, highlighting the GPRA model [51]. The research pinpointed the evolution of federal performance actions from concentrating solely on performance metrics to a systems approach for implementing wider and more sustainable (output) routes. Rajala [52], that is, here we propose an integrated model of performance measurement that reduces blame-avoidant behaviors at the system level in the public sector. Also, Tang et al. [53] constructed a theoretical perspective to evaluate the influence of financial and political luminosity, as well as political restrictions, on the actions of arbitrary governments, especially in the absence of legal land use. Stříteská and Sein [54] estimated a performance measurement framework based on the Balanced Scorecard (BSC) and Knowledge-Based Management that considers the dynamics of organizational culture in multipublic sector management as well as performance evaluation. The research was conducted in several local governments in Scandinavia (i.e., Sweden, Norway, and Finland). Aureli and Del Baldo [55] built a Multi-Dimensional Performance Measurement System (MD-PMS) in Convention Bureau (CB) offices a complex one.

Theme 8: Integration of Performance Measurement with Other Programs: This theme refers to studies combining performance measurement systems (PM) with other conceptual models. The performance measurement of local governments in Yogyakarta, Indonesia [12], applying the New Institutional Theory (NIT) was analyzed. Their research aimed to investigate how organizational culture, external regulation, leadership style, and performance measurement systems affected public accountability. Schulz et al. [56] suggested the utilization of a performance measurement system

for cultural regions in local governments. Using several lenses such as Participative Action Research (PAR) and House of Quality (HoQ), the framework aimed to address the challenges related to public administration by effectively engaging stakeholder communities as co-designers in developing performance indicators. Valibeigi et al. [57] developed a balanced scorecard (BSC), Analytical Hierarchy Process (AHP) performance measurement framework for the local government of Karaj in Iran. This is followed by Chen et al. [58] evaluated urban performance using a hybrid methodology that combined the Decision Tree of Indicator Benchmark (DTIB) and the Deviation-Degree-Based analysis with AHP for effective benchmarking of indicators.

This literature review revealed the background for a more comprehensive study of the development, challenges, and critical factors of performance measurement with respect to local government. The findings can also provide inspiration for future research that would allow us to identify potential gaps requiring further investigation.

3.6. Further Research Direction

Within the identified settings, applications perform evaluation methods in many diverse ways. Future studies can explore how integrated measurement strategies using each method to best serve their context should be developed based on the specific situation. Maybe through the development of a framework that combines BSC (Balanced Scorecard) and Results-Based Performance Measurement (RBPM) with CSS (Customer Satisfaction Surveys), a deeper understanding of local government performance could be achieved.

Moreover, the diversity of regulatory, political, economic, and sociocultural configurations within which local governments operate makes their performance management systems even harder to navigate [19]. Future work could utilize this heterogeneity to focus on the development of regionally adaptive performance measurement models. The sociocultural, economic, and geographical context of each region should then be incorporated into these methods.

Future work could also pursue creating holistic and integrated measurement frameworks that are process-oriented (e.g., the elements of municipal institutions, in line with Indonesian counties, and the alignment of strategic policies with performance assessment). These roles include regulation, service provision, development, empowerment, and protection, among others.

This literature review demonstrates that the promotion of performance measurement in multiple jurisdictions and regions is applied as a diverse set of techniques. The quality of separate approaches must be further studied. This will include the assessment of the results produced by each approach, satisfaction of stakeholders, and the take-off of such: economic, social, cultural, and sustainability. This appraisal will help in analyzing which local government performance is the most relevant and ultimately successful. Another option for future research will be to investigate the development of specialized management and performance measurement systems that are derived from empirical experiences with e-Government, Smart Government. This may look into performance measurement integration for digital transformation, IT effectiveness, and artificial intelligence at the top of predictive modelling, NLP, and real-time data to aid decision-making.

In the end, sustainable development goals (SDGs) receive increasing attention and become embedded in national priorities on a global scale. Critical to the foundational development policies of local governments (reflecting the town and country dimension), relevance should be given to the SDGs, involving a holistic approach towards economic, social, and environmental aspects. Further research is needed to evaluate the extent of SDG implementation in local governments. Such studies could establish drivers for achieving or hindering SDG progress, as well as the need for means to link performance measurement with the SDGs themselves.

4. Conclusion

This comprehensive literature review reveals new important insights into the usage and consequences of performance measurement tools in local government settings. There is no secret to the enormous number of research articles published in the last five years: it clearly reflects a growing academic interest in this area. Figure 3 below describes the extent to which academic publishers have published journal articles on research related to performance evaluation and measurement in local governments, mainly from the US, UK, and other higher-performing European nations like Canada.

Theoretically, our review contributes to the literature by synthesizing a set of separate studies and providing a comprehensive chart of current local government performance evaluation practices.

In reality, this review provides substantive information that helps to fill gaps in existing literature, particularly regarding having a general viewpoint of the different approaches and providing policymakers and local government administrators with a collection of factors that may impact the creation of an effective and contextually applicable performance measurement instrument as such.

Thematic analysis shows that the spectrum of performance measurement methods exists, such as Balanced Scorecard (BSC), Results-Based Performance Measurement (RBPM), Key Performance Indicators (KPIs), etc. The release of journal articles indicates which journals are active in the field of local government performance, and which countries are implementing various performance measurement approaches. Similarly, the diversity of research methods is characterized by eight research method clusters: conceptual, descriptive, exploratory, empirical, case study, experimental, literature review, and explanatory. The use of genre-specific research methods indicates that local government performance measurement is being thoroughly studied from multiple perspectives.

The review also outlines the eight main research areas (government performance measurement based on performance indicators, impact of performance measurement on the development of indicators, implementation factors while collecting performance indicators, performance measures for employees, government performance measurement, e-government performance measurement, economic and financial sectors, socio-cultural sectors, and sustainability [SDGs], most notably

with the number of performance measurement concepts). These themes indicate the scope of research literature on measurement properties.

Many research studies have focused on integrating performance measurement with other established frameworks such as the New Institutional Theory (NIT), PAR, and blockchain models, as well as Knowledge-Based Management. These efforts aim to examine local government performance within adhered conceptual and theoretical frameworks. Abstract: A selection of research results from nations all over the world (Australia, South Korea, Japan, Uganda, Indonesia, US, China, Portugal, and many more international nations) is covered in this article. This highlights the necessity not only of context and performance measurement practices but also of considering global variations.

The conclusion of this review provides a comprehensive summary of all the information presented earlier, demonstrating that performance measurement in local government is a multi-dimensional field that is complex and encompasses various research areas and agendas. This review not only highlights the importance of performance measurement in local government but also opens new avenues for research on methodologies that may enhance accountability, transparency, and effective governance at the local level.

References

- [1] S. Agarwal, R. Kant, and R. Shankar, "Exploring sustainability balanced scorecard for performance evaluation of humanitarian organizations," *Cleaner Logistics and Supply Chain*, vol. 3, p. 100026, 2022. https://doi.org/10.1016/j.clscn.2021.100026
- [2] F. Tüysüz and N. Yıldız, "A novel multi-criteria analysis model for the performance evaluation of bank regions: An application to Turkish agricultural banking," *Soft Computing*, vol. 24, pp. 5289-5311, 2020. https://doi.org/10.1007/s00500-019-04279-7
- [3] J. Lu, T. He, G. Wei, J. Wu, and C. Wei, "Cumulative prospect theory: Performance evaluation of government purchases of home-based elderly-care services using the Pythagorean 2-tuple linguistic TODIM method," *International Journal of Environmental Research and Public Health*, vol. 17, no. 6, p. 1939, 2020. https://doi.org/10.3390/ijerph17061939
- [4] A. Afrasiabi, M. K. Chalmardi, and T. Balezentis, "A novel hybrid evaluation framework for public organizations based on employees' performance factors," *Evaluation and Program Planning*, vol. 91, p. 102020, 2022. https://doi.org/10.1016/j.evalprogplan.2021.102020
- [5] A. Tawse and P. Tabesh, "Thirty years with the balanced scorecard: What we have learned," *Business Horizons*, vol. 66, no. 1, pp. 123-132, 2023. https://doi.org/10.1016/j.bushor.2022.03.005
- [6] C. Suárez-Gargallo and P. Zaragoza-Sáez, "A comprehensive bibliometric study of the balanced scorecard," *Evaluation and Program Planning*, vol. 97, p. 102256, 2023. https://doi.org/10.1016/j.evalprogplan.2023.102256
- [7] E. E. Lehmann and M. Menter, "Public cluster policy and performance," *The Journal of Technology Transfer*, vol. 43, no. 3, pp. 558-592, 2018. https://doi.org/10.1007/s10961-017-9626-4
- [8] S. F. Trinda, R. A. Hadiguna, and I. Arief, "Balanced scorecard and local government performance measurement: A systematic review of implementation and research issues," *Jurnal Sains dan Teknologi: Jurnal Keilmuan dan Aplikasi Teknologi Industri*, vol. 24, no. 1, pp. 21-35, 2024.
- [9] M. Král, "20-year history of performance measurement in the local public sector: A systematic review," *International Journal of Public Administration*, vol. 45, no. 9, pp. 726-740, 2022.
- [10] A. D. Mirand and A. R. A. Aljanabi, "The challenges of measuring performance in local government: A review of the literature," *International Journal of Public Administration and Management Research*, vol. 2, no. 3, pp. 22–31, 2013.
- [11] X. Zhong, C. Jiang, L. Li, and H. Zhou, "Progress and prospects of research on public services in sports in China: Analysis in the context of bibliometric ecological civilization and social networks," *Journal of Environmental and Public Health*, vol. 2022, no. 1, p. 9309074, 2022. https://doi.org/10.1155/2022/9309074
- [12] R. B. Murti, M. Mahmudi, and A. Nurfauziya, "An analysis of performance measurement system used in Indonesia local government," *Journal of Contemporary Accounting*, pp. 64-76, 2021. https://doi.org/10.20885/jca.vol3.iss2.art2
- [13] D. Nurindrasari, U. Ludigdo, L. Purwanti, and A. D. Mulawarman, "Designing performance measurement for developing sustainability of social enterprise," *Review of Integrative Business and Economics Research*, vol. 11, pp. 220-237, 2022.
- [14] D. Febriyanti, I. Widianingsih, A. Sumaryana, and R. A. Buchari, "Information Communication Technology (ICT) on Palembang city government, Indonesia: Performance measurement for great digital governance," *Cogent Social Sciences*, vol. 9, no. 2, p. 2269710, 2023. https://doi.org/10.1080/23311886.2023.2269710
- [15] D. Mukherjee, W. M. Lim, S. Kumar, and N. Donthu, "Guidelines for advancing theory and practice through bibliometric research," *Journal of Business Research*, vol. 148, pp. 101-115, 2022. https://doi.org/10.1016/j.jbusres.2022.04.042
- [16] W. Chen, X. Lu, H. Yan, and X. Du, "Decision tree of indicator benchmark: A hybrid method for assessing cities' performance through urban indicators and benchmark," *Ecological Indicators*, vol. 154, p. 110804, 2023. https://doi.org/10.1016/j.ecolind.2023.110804
- [17] A. Yetano, T. Matsuo, and K. Oura, "Diagnostic and interactive use of PMM by Japanese local governments: Does the context affect the fitness of use?," *Public Performance & Management Review*, vol. 44, no. 1, pp. 28-57, 2021. https://doi.org/10.1080/15309576.2020.1817108
- [18] W. Hout, N. Wagner, and B. A. Demena, "Does accountability enhance service delivery? Assessment of a local scorecard initiative in Uganda," *World Development*, vol. 158, p. 106011, 2022. https://doi.org/10.1016/j.worlddev.2022.106011
- [19] S. Deni, T. Husain, and I. Salim, "The implementation of government accountability performance system: A case study in Tidore Island City," *International Journal of Scientific & Technology Research*, vol. 8, no. 10, pp. 2952–2955, 2019.
- [20] E. Fusco and V. Allegrini, "The role of spatial interdependence in local government cost efficiency: An application to waste Italian sector," *Socio-Economic Planning Sciences*, vol. 69, p. 100681, 2020. https://doi.org/10.1016/j.seps.2019.01.003
- [21] I. Narbon-Perpina, I. Arribas, M. T. Balaguer-Coll, and E. Tortosa-Ausina, "Explaining local governments' cost efficiency: Controllable and uncontrollable factors," *Cities*, vol. 100, p. 102665, 2020. https://doi.org/10.1016/j.cities.2020.102665
- [22] R. Krishnamurthy, K. Desouza, G. Dawson, and A. Ho, "Factors promoting the collection of performance measurement: Evidence from US Local Governments," in *Proceedings of the 51st Hawaii International Conference on System Sciences*, 2018.

- [23] T. Agasisti, D. Agostino, and M. Soncin, "Implementing performance measurement systems in local governments: Moving from the "how" to the "why"," *Public Performance & Management Review*, vol. 43, no. 5, pp. 1100-1128, 2020.
- [24] T. Dimitrijevska-Markoski and P. E. French, "Determinants of public administrators' use of performance information: Evidence from local governments in Florida," *Public Administration Review*, vol. 79, no. 5, pp. 699-709, 2019.
- [25] Y. Han and S. Hong, "The impact of accountability on organizational performance in the US federal government: The moderating role of autonomy," *Review of Public Personnel Administration*, vol. 39, no. 1, pp. 3-23, 2019.
- [26] E. B. Sifah, H. Xia, C. N. A. Cobblah, Q. Xia, J. Gao, and X. Du, "BEMPAS: A decentralized employee performance assessment system based on blockchain for smart city governance," *IEEE Access*, vol. 8, pp. 99528-99539, 2020.
- [27] A. G. Gabriel and N. S. Villaroman, "Strategic performance management in local governments in the Philippines: Work and rating challenges," *Asia Pacific Journal of Public Administration*, vol. 41, no. 2, pp. 119-125, 2019.
- [28] H.-W. Lee and D.-Y. Rhee, "The practices of performance management and low performers in the US Federal Government," International Journal of Manpower, vol. 41, no. 4, pp. 417-433, 2020. https://doi.org/10.1108/IJM-12-2018-0404
- [29] A. Sabani, H. Deng, and V. Thai, "Evaluating the performance of e-government in Indonesia: A thematic analysis," in *Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance*, 2019, pp. 435-440.
- [30] D. Argento, G. Grossi, A. Jääskeläinen, S. Servalli, and P. Suomala, "Governmentality and performance for the smart city," *Accounting, Auditing & Accountability Journal*, vol. 33, no. 1, pp. 204–232, 2020.
- [31] A. Herdiyanti, P. S. Hapsari, and T. D. Susanto, "Modelling the smart governance performance to support smart city program in Indonesia," *Procedia Computer Science*, vol. 161, pp. 367-377, 2019.
- [32] H. Shim and J. Kim, "A study on project prioritisation and operations performance measurements by the analysis of local financial investment projects in Korea," *Sustainability*, vol. 15, no. 7, p. 5972, 2023. https://doi.org/10.3390/su15075972
- U. Purwohedi and B. Gurd, "Using Social Return on Investment (SROI) to measure project impact in local government," Public Money & Management, vol. 39, no. 1, pp. 56-63, 2019. https://doi.org/10.1080/09540962.2019.1537706
- [34] G. D'Inverno, W. Moesen, and K. De Witte, "Local government size and service level provision. Evidence from conditional non-parametric analysis," *Socio-Economic Planning Sciences*, vol. 81, p. 100917, 2022. https://doi.org/10.1016/j.seps.2020.100917
- [35] J. L. Hall, G. Shin, and C. E. Bartels, "Measuring the effect of performance management in local economic development policy: The case of tax increment finance districts in the Dallas-Ft. Worth metroplex," *Local Government Studies*, vol. 48, no. 4, pp. 628-654, 2022.
- [36] I. Belmonte-Martin, L. Ortiz, and C. Polo, "Local tax management in Spain: A study of the conditional efficiency of provincial tax agencies," *Socio-Economic Planning Sciences*, vol. 78, p. 101057, 2021. https://doi.org/10.1016/j.seps.2021.101057
- [37] Q. Jiang and P. Deng, "IPR: A system to evaluate the development level of public cultural services in Chinese provinces'," in 2020 International Conference on Culture-oriented Science & Technology (ICCST), 2020: IEEE, pp. 441-446.
- P. Pornprasit and S. Rurkkhum, "Performance evaluation of community-based ecotourism: A case study in Satun province, Thailand," *Journal of Ecotourism*, vol. 18, no. 1, pp. 42-59, 2019. https://doi.org/10.1080/14724049.2017.1379529
- [39] L. Gao, W. Bao, and L. Shi, "Governance mechanism and performance of marine eco-economic system: Evidence from China," *Ecological Indicators*, vol. 136, p. 108668, 2022. https://doi.org/10.1016/j.ecolind.2022.108668
- [40] R. Schulz, A. Sense, and M. Pepper, "Combining participative action research with an adapted house of quality framework for the stakeholder development of performance indicators in local government," *Systemic Practice and Action Research*, vol. 34, no. 3, pp. 307-330, 2021. https://doi.org/10.1007/s11213-020-09534-9
- [41] V. Montalto, C. J. T. Moura, S. Langedijk, and M. Saisana, "Culture counts: An empirical approach to measure the cultural and creative vitality of European cities," *Cities*, vol. 89, pp. 167-185, 2019. https://doi.org/10.1016/j.cities.2019.01.014
- [42] C. lo Storto, "Performance evaluation of social service provision in Italian major municipalities using Network Data Envelopment Analysis," *Socio-Economic Planning Sciences*, vol. 71, p. 100821, 2020. https://doi.org/10.1016/j.seps.2020.100821
- [43] S.-H. Yu, "Benchmarking and performance evaluation towards the sustainable development of regions in Taiwan: A minimum distance-based measure with undesirable outputs in additive DEA," *Social Indicators Research*, vol. 144, no. 3, pp. 1323-1348, 2019. https://doi.org/10.1007/s11205-019-02087-y
- J. Alpenberg and T. Wnuk-Pel, "Environmental performance measurement in a Swedish municipality–Motives and stages," *Journal of Cleaner Production*, vol. 370, p. 133502, 2022. https://doi.org/10.1016/j.jclepro.2022.133502
- [45] A. Y. Park and R. M. Krause, "Exploring the landscape of sustainability performance management systems in US local governments," *Journal of Environmental Management*, vol. 279, p. 111764, 2021. https://doi.org/10.1016/j.jenvman.2020.111764
- [46] P. Caldas, B. Dollery, and R. C. Marques, "Measuring what matters in local government: A Municipality Sustainability Index," Policy Studies, vol. 43, no. 4, pp. 738-758, 2022. https://doi.org/10.1080/01442872.2020.1726311
- [47] A. C. Almeida, "Multi actor multi criteria analysis (MAMCA) as a tool to build indicators and localize sustainable development goal 11 in Brazilian municipalities," *Heliyon*, vol. 5, no. 8, p. e02128, 2019.
- [48] A. Deslatte and E. Stokan, "Sustainability synergies or silos? The opportunity costs of local government organizational capabilities," *Public Administration Review*, vol. 80, no. 6, pp. 1024-1034, 2020.
- [49] S. Diao, J. Yuan, and Y. Wu, "Performance evaluation of urban comprehensive carrying capacity of Harbin, Heilongjiang Province in China," *Chinese Geographical Science*, vol. 29, pp. 579-590, 2019.
- [50] J. M. Kamensky, "Are we there yet? The evolution of the US federal performance management framework: 1993–2022," *International Journal of Public Administration*, vol. 47, no. 13, pp. 846-856, 2024.
- [51] Y. Kim, "Analysing the development of performance measures in US federal agencies: Has the GPRA Modernization Act worked?," *Public Management Review*, vol. 26, no. 11, pp. 3059–3081, 2024.
- [52] T. Rajala, "Blame avoidance strategies in governmental performance measurement," *Financial Accountability & Management*, vol. 36, no. 3, pp. 278-299, 2020. https://doi.org/10.1111/faam.12225
- [53] P. Tang, Y. Feng, M. Li, and Y. Zhang, "Can the performance evaluation change from central government suppress illegal land use in local governments? A new interpretation of Chinese decentralisation," *Land Use Policy*, vol. 108, p. 105578, 2021. https://doi.org/10.1016/j.landusepol.2021.105578

- [54] K. M. Stříteská and Y. Y. Sein, "Performance driven culture in the public sector: The case of Nordic countries," *Administrative Sciences*, vol. 11, no. 1, p. 4, 2021. https://doi.org/10.3390/admsci11010004
- [55] S. Aureli and M. Del Baldo, "Performance measurement in the networked context of convention and visitors bureaus (CVBs)," *Annals of Tourism Research*, vol. 75, pp. 92-105, 2019.
- [56] R. Schulz, A. Sense, and M. Pepper, "Apprehending and embedding customer expectations in the collaborative development of performance indicators," *Systemic Practice and Action Research*, vol. 34, no. 1, pp. 71-90, 2021. https://doi.org/10.1007/s11213-019-09511-x
- [57] M. Valibeigi, M. Afsharirad, M. Valibeigi, and E. Sarhangi, "Proposing a performance measurement framework for the Municipalities," *International Journal of Human Capital in Urban Management*, vol. 5, no. 4, pp. 319-330, 2020.
- [58] P. Chen et al., "SARS-CoV-2 neutralizing antibody LY-CoV555 in outpatients with Covid-19," New England Journal of Medicine, vol. 384, no. 3, pp. 229-237, 2021.