

Strategic Role of Management Audit in Enhancing Operational Efficiency and Public Value

Angga Christopel Immanuel Lumban Tobing¹, Annada Nasyaya²

^{1,2}Department of Public Administration, Faculty of Social and Political Sciences, Universitas Sriwijaya, Indralaya, Sumatera Selatan, Indonesia

¹anggatobing969@gmail.com,
²annadanasyaya@fisip.unsri.ac.id

Abstract

This study aims to analyze the role of management audit as a strategic instrument in enhancing operational efficiency and public value creation in corporatized public sector organizations, using PT Pertamina Hulu Rokan Regional 1 Zone 4A as a case study. Management audit is conceptualized through four dimensions: audit planning, implementation, reporting, and follow up, while operational efficiency is measured across process performance and productivity, resource utilization, and the achievement of outcomes and public value. Data were collected via questionnaires distributed to all employees of the Supply Chain Management unit (N = 78) and analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The results indicate that not all audit stages exert an equal influence on operational efficiency. Audit planning and implementation exhibit relatively weak effects, whereas audit reporting begins to make a significant contribution to outcome achievement and resource utilization. The most prominent finding is audit follow up, which has a positive and significant impact across all dimensions of operational efficiency. This study underscores that management audit should be positioned as an integral component of public sector organizational strategy, with the effective implementation of audit recommendations serving as the key to achieving efficiency and public value. The findings contribute theoretically to public administration scholarship and offer practical implications for strengthening governance in energy sector state-owned enterprises.

Keywords: corporatized public organization, Management audit, operational efficiency, public value creation.

1. Introduction

The development of modern public administration paradigms has brought significant changes in the way public sector organizations are managed and evaluated. The shift from traditional administrative approaches toward managerial perspectives requires public organizations not only to comply with regulations but also to demonstrate efficient, effective, and publicly valuable performance. In this context, the principles of *New Public Management* (NPM) and *Public Value Management* emphasize operational efficiency as a key indicator of successful public sector governance.

State-Owned Enterprises (SOEs) represent strategic entities within Indonesia's public administration system and possess distinctive characteristics. SOEs operate under a dual orientation: as business entities expected to achieve optimal performance and as public

organizations accountable for the management of state resources. This dual role renders operational efficiency a critical issue, as inefficiency affects not only corporate performance but also the sustainability of public services and public trust.

To enhance efficiency and accountability, management audit is positioned as an essential instrument within public sector governance and SOE management. Management audit is not limited to assessing procedural compliance but is intended to evaluate the effectiveness, efficiency, and economy of operational activities in achieving organizational objectives. Accordingly, management audit should function as a strategic tool that provides systematic performance improvement recommendations.

However, numerous studies indicate that audit practices in the public sector remain predominantly oriented toward administrative compliance and formal governance requirements. The contribution of audits to performance improvement and operational efficiency is often limited, as audit findings are not fully integrated into managerial decision-making processes. Consequently, audits are frequently perceived as procedural obligations rather than as instruments for organizational learning and performance enhancement.

This gap between the normative objectives of management audit and its practical implementation is also evident in the operational context of energy-sector SOEs. The complexity of business processes, resource constraints, and the pressure to maintain service continuity make operational efficiency an ongoing challenge. Under such conditions, the role of management audit becomes increasingly vital to ensure that organizational resources are utilized optimally and aligned with performance outcomes.

Empirically, the implementation of management audits within the *Supply Chain Management* unit of PT Pertamina Hulu Rokan Regional 1 Zona 4A reveals several improvement recommendations that have not yet been fully implemented. One notable audit recommendation concerns the expansion of material buffering capacity within warehouse facilities to reduce distribution delays and mitigate the risk of inventory shortages that may disrupt operational activities. This recommendation arose in response to limited storage capacity and inventory planning practices that were insufficiently adaptive to fluctuating field demands.

In practice, these audit recommendations have not been comprehensively realized due to several constraints, including budget limitations, short-term investment priorities, and the suboptimal integration of audit findings into operational and strategic planning. As a result, persistent inefficiency risks remain, such as increased reliance on emergency procurement, higher operational costs, and suboptimal utilization of time and labor resources.

These conditions demonstrate that the existence of management audit findings alone does not automatically lead to improved operational efficiency unless accompanied by effective follow-up actions. In other words, the effectiveness of management audits largely depends on the extent to which audit recommendations are implemented and used as a basis for managerial decision-making. This highlights a structural gap between audit functions as evaluation mechanisms and their role as strategic performance improvement instruments.

From a public administration perspective, this situation underscores the need to strengthen the role of management audit within a governance framework that emphasizes results and public value. Management audit should be understood not merely as a control mechanism but as an

integral component of management strategy that promotes efficiency, effectiveness, and organizational accountability in corporatized public organizations.

Based on the foregoing discussion, this study seeks to empirically examine the effect of management audit on operational efficiency at PT Pertamina Hulu Rokan Regional 1 Zona 4A. The findings are expected to contribute theoretically to the development of public administration scholarship, particularly in the fields of public sector management and SOE governance, while also providing practical insights for reinforcing the strategic role of management audits in enhancing efficiency and public value.

Literature Review

Studies on auditing in public sector organizations have developed rapidly over the past two decades, in line with increasing demands for accountability, transparency, and organizational performance. Early research largely positioned auditing particularly internal audit and management audit as a control mechanism aimed at ensuring compliance with regulations and administrative procedures. In the Indonesian context, Sihombing (2023), through a systematic review, found that the quality of internal audits in the public sector remains predominantly oriented toward administrative compliance, while performance outcomes and organizational efficiency receive limited attention. These findings indicate that auditing in the public sector is still largely perceived as a traditional control function rather than a strategic instrument for performance improvement.

Other studies emphasize the role of auditing in supporting the principles of good governance. Williyanto, Moeljadi, and Soedjatno (2022) demonstrated that internal audit contributes significantly to improving transparency and accountability in local governments, although its effectiveness is constrained by auditor independence and limited resources. This study confirms the importance of audit functions in public governance; however, it does not explicitly link auditing to improvements in operational efficiency. Consequently, auditing continues to be understood primarily as a normative oversight tool rather than as an integral component of public sector performance management strategies.

Meanwhile, research on operational efficiency in public entities and state-owned enterprises (SOEs) has evolved along a relatively separate trajectory from audit studies. Nasution, Siregar, and Novianti (2020) analyzed the efficiency of state-owned banks using a Data Envelopment Analysis (DEA) approach and found that financial and macroeconomic factors significantly influence organizational efficiency. Although relevant in explaining efficiency determinants, this study does not include management audit as an explanatory variable and therefore fails to capture the role of internal control mechanisms in enhancing operational efficiency. This indicates a disconnect between efficiency studies and internal managerial mechanisms within organizations. Several studies conducted in SOE environments place auditing within a corporate governance framework. Setiawati and Wijaya (2022), as well as Azmiawan and Srimindarti (2023), found that audit committees, audit quality, and corporate governance mechanisms significantly affect firm value and fraud prevention in SOEs. These studies underscore the importance of auditing as a pillar of corporate governance; however, their analytical focus is directed more toward firm value and fraud mitigation rather than operational efficiency as a performance outcome of corporatized public organizations.

Research that more closely examines the relationship between auditing and operational efficiency can be found in the study by Winarto and Utomo (2021), which investigated the implementation of remote auditing in an SOE. The findings show that remote audit methods can significantly

reduce operational costs. Nevertheless, the scope of this study is limited to the efficiency of the audit process itself rather than the impact of management audit on overall organizational operational efficiency. As such, auditing is positioned as an object of efficiency rather than as a strategic instrument influencing operational performance at the organizational or unit level.

A study that explicitly examines the effect of management audit on efficiency in energy-sector SOEs was conducted by Hasibuan (2023). The results indicate that management audit has a positive and significant effect on financial and operational efficiency in Indonesian energy SOEs. This finding strengthens the argument that management audit has strategic potential in improving organizational efficiency. However, the study primarily focuses on measuring direct relationships and does not comprehensively elaborate the internal mechanisms of management audit—such as audit planning, implementation, reporting, and especially audit follow-up—as strategic elements in public sector organizational management.

To strengthen the theoretical framework, the Resource-Based View (RBV) perspective becomes highly relevant in explaining the relationship between management audit and operational efficiency. RBV posits that organizational performance is determined by an organization's ability to manage strategic resources that are valuable, rare, inimitable, and non-substitutable. In the context of corporatized public organizations, management audit can be viewed as an internal capability that plays a critical role in identifying resource inefficiencies, improving operational processes, and optimizing the utilization of organizational assets. Accordingly, management audit functions not merely as a control mechanism but as a source of managerial capability that supports operational efficiency.

Furthermore, the implementation of audit recommendations particularly during the audit follow-up stage represents an organization's capacity for learning and strategic adaptation. From an RBV perspective, this capability reflects dynamic capability, namely the organization's ability to reconfigure internal resources in response to evaluative findings and operational challenges. Therefore, the effectiveness of management audit in enhancing operational efficiency is largely determined by the organization's capacity to consistently implement audit recommendations and integrate them into managerial and strategic decision-making processes.

Overall, the review of prior studies reveals a fragmentation in the literature between auditing, operational efficiency, and public sector management strategy. Audit research in the public sector and SOEs remains dominated by compliance-oriented, governance, and fraud-prevention perspectives, while studies on operational efficiency tend to emphasize financial and productivity factors without linking them to internal managerial capabilities. Moreover, limited research integrates management audit with the perspectives of New Public Management, Public Value Management, and the Resource-Based View as strategic frameworks for enhancing organizational performance and public value.

Based on these gaps, this study positions itself to contribute by integrating management audit and operational efficiency within a public sector management strategy perspective. Unlike previous studies, this research not only examines the effect of management audit on operational efficiency but also emphasizes the strategic role of each audit stage particularly audit follow-up as an organizational capability that drives efficiency and public value creation in corporatized public organizations within the energy sector.

2. Methods

This study employs a quantitative approach with an explanatory research design, aimed at analyzing the causal relationship between management audit and operational efficiency within

the context of corporatized public sector organizations. This approach is selected because the study focuses on testing the effect of management audit variables on operational efficiency based on theoretical frameworks in public administration and public sector management, particularly the paradigms of New Public Management and Public Value Management. The scope of the study emphasizes management audit as a strategic organizational instrument and its implications for operational efficiency, which is measured through process performance, resource utilization, and the achievement of outcomes and public value.

The object of this study is PT Pertamina Hulu Rokan Regional 1 Zone 4A, a state-owned enterprise in the energy sector that performs both public and commercial functions in upstream oil and gas activities. The research is conducted within the Supply Chain Management unit, as this unit plays a strategic role in supporting organizational operational efficiency through the management of procurement, warehousing, and logistics distribution. The selection of the Supply Chain Management unit is based on the consideration that its operational activities and resource management are directly related to the implementation of management audits and the achievement of organizational efficiency.

The population of this study consists of all employees directly involved in Supply Chain Management activities at PT Pertamina Hulu Rokan Regional 1 Zone 4A, totaling 78 individuals. This population includes employees in the functions of Procurement and Contract Management, Warehouse and Material Management, as well as Logistics and Transportation. Given the relatively limited and homogeneous population size, this study applies a census technique, whereby all members of the population are included as research respondents. The census approach is intended to obtain a comprehensive understanding of employees' perceptions and experiences regarding the implementation of management audits and operational efficiency in their work environment.

The research variables consist of management audit as the independent variable and operational efficiency as the dependent variable. Management audit is constructed through four main dimensions, namely audit planning, audit implementation, audit reporting, and audit follow up, which collectively represent the full cycle of management auditing as discussed in the public sector audit literature. Operational efficiency is measured through dimensions of process performance and productivity, resource utilization, and the achievement of outcomes and public value, in line with the principles of economy, efficiency, and effectiveness in public administration. The operational definitions of variables are translated into measurable indicators developed based on theoretical reviews and previous empirical studies.

Research data are collected through the distribution of structured questionnaires to all respondents, using a five-point Likert scale to measure the level of respondents' agreement with statements representing the indicators of the research variables. In addition to primary data, this study also utilizes secondary data in the form of internal company documents, audit reports, and relevant academic literature to strengthen the analysis and contextual understanding of the research setting. The main research materials and tools include the questionnaire instrument, statistical data processing software, and supporting documents related to auditing and organizational operations.

Data analysis is conducted using the Structural Equation Modeling-Partial Least Squares approach. This method is chosen because it is capable of simultaneously and predictively analyzing relationships among latent variables and is suitable for relatively small sample sizes. The analysis procedure involves evaluating the measurement model to assess construct validity

and reliability, followed by evaluation of the structural model to examine the effect of management audit on operational efficiency. The entire analytical process is directed toward generating empirical insights into the role of management audit as a strategic instrument for enhancing operational efficiency and public value in corporatized public sector organizations.

3. Results and Discussion

3.1. Results

Data analysis in this study was conducted using the *Structural Equation Modeling–Partial Least Squares* (SEM-PLS) approach to examine the quality of both the measurement model and the structural model developed. The initial stage of analysis focused on evaluating the measurement model (*outer model*) to ensure that the constructs of management audit and operational efficiency were measured validly and reliably prior to testing the causal relationships among variables.

The results of convergent validity testing indicate that all indicators have *loading factor* values above the minimum threshold of 0.70. Indicators of audit planning (PA) show loadings ranging from 0.843 to 0.890, audit implementation (PLA) from 0.777 to 0.836, audit reporting (PLR) from 0.751 to 0.817, and audit follow-up (TLA) from 0.830 to 0.879. Meanwhile, indicators of operational efficiency also demonstrate high loading values, namely resource utilization (PSD) ranging from 0.865 to 0.900, process and productivity (PP) from 0.782 to 0.834, and achievement of outcomes and public value (PHN) from 0.889 to 0.922. These findings indicate that all indicators strongly represent their respective latent constructs.

Convergent validity is further supported by the *Average Variance Extracted* (AVE) values, all of which exceed the recommended threshold of 0.50. The AVE values for audit planning, audit implementation, audit reporting, and audit follow-up are 0.743, 0.643, 0.627, and 0.725, respectively. Meanwhile, the AVE values for resource utilization, process and productivity, and achievement of outcomes and public value are 0.782, 0.655, and 0.830, respectively. These results indicate that each construct explains more than half of the variance of its indicators.

Discriminant validity testing based on the Fornell–Larcker criterion shows that the square root of the AVE for each construct is higher than its correlations with other constructs. For example, the square root of the AVE for audit follow-up is 0.865, which is higher than its correlation with audit reporting (0.516) and resource utilization (0.663). This confirms that each construct has conceptual distinctiveness and that no measurement overlap occurs among variables.

The results of construct reliability testing indicate that all latent variables exhibit good internal consistency. Cronbach's alpha values range from 0.704 to 0.898, while composite reliability (ρ_c) values range from 0.835 to 0.936. All values exceed the recommended minimum criteria, indicating that the research instrument is reliable for measuring management audit and operational efficiency variables.

After confirming that the measurement model is adequate, the analysis proceeded to evaluate the structural model (*inner model*). The *R-square* values indicate that management audit variables explain 49.7% of the variance in achievement of outcomes and public value (PHN), 36.5% of process and productivity (PP), and 62.4% of resource utilization (PSD). The adjusted R-square values are 0.469 for PHN, 0.331 for PP, and 0.603 for PSD, suggesting that the model has moderate to strong explanatory power.

The results of the path coefficient analysis reveal varying effects across the stages of the management audit. Audit planning does not have a significant effect on the achievement of outcomes and public value ($\beta = -0.046$; $p = 0.716$), but it shows a significant effect on process

and productivity ($\beta = -0.266$; $p = 0.048$) and resource utilization ($\beta = -0.290$; $p = 0.002$). The negative direction of these coefficients indicates that audit planning remains largely administrative and procedural in nature and has not yet been fully internalized as a strategic instrument to drive performance outcomes and public value.

Audit implementation yields more critical results, as it does not show a significant effect on any dimension of operational efficiency, with all *p-values* exceeding 0.05. This lack of significance suggests that audit implementation activities tend to be routine and formalistic, such that their execution does not directly contribute to improvements in work processes, resource utilization, or organizational outcomes. Empirically, these findings point to an indication of *bureaucratic ritualism*, where audits are conducted primarily to fulfill standard operating procedures and compliance requirements, rather than to generate substantive strategic value for the organization. In contrast, audit reporting demonstrates a positive and significant effect on the achievement of outcomes and public value ($\beta = 0.257$; $p = 0.013$) and on resource utilization ($\beta = 0.184$; $p = 0.018$), although it does not significantly affect process and productivity. This finding indicates that audit reporting begins to function as a managerial communication tool that supports improvements in outcomes and resource allocation, even though its impact on internal process efficiency remains limited.

The strongest and most consistent effects are observed for audit follow-up. This variable has a positive and significant effect on achievement of outcomes and public value ($\beta = 0.518$; $p < 0.001$), process and productivity ($\beta = 0.476$; $p < 0.001$), and resource utilization ($\beta = 0.589$; $p < 0.001$). These results confirm that management audits generate tangible improvements in operational efficiency only when audit recommendations are effectively followed up and integrated into managerial decision-making.

The *effect size* (f-square) values further reinforce these findings, with audit follow-up showing large effects on achievement of outcomes and public value ($f^2 = 0.420$), process and productivity ($f^2 = 0.281$), and resource utilization ($f^2 = 0.728$). In contrast, audit planning, implementation, and reporting generally exhibit small to moderate effect sizes. Additionally, the positive *Q-square* values for achievement of outcomes and public value (0.394), process and productivity (0.194), and resource utilization (0.463) indicate that the model possesses good predictive relevance.

Overall, the results demonstrate that although all stages of management audit are formally implemented and measurable, only the audit follow-up stage consistently contributes significantly to operational efficiency and public value creation. The non-significant effects of audit planning and audit implementation suggest the presence of bureaucratic ritualism in management audit practices, whereby audits are conducted as procedural obligations without substantive strategic internalization. These findings underscore that the effectiveness of management audits is determined not merely by their existence, but by the extent to which audit results are translated into concrete corrective actions.

3.2. Discussion

The findings of this study provide empirical evidence that management audit does not operate in a mechanical or uniform manner in enhancing the operational efficiency of corporatized public sector organizations. The results demonstrate that the impact of management audit on operational efficiency is highly contingent upon the audit stage implemented and the extent to which audit outcomes are internalized within the organization's managerial processes. Accordingly, management audit in the public sector context cannot be understood merely as a series of technical

procedures, but rather as a strategic process whose effectiveness depends on the quality of managerial decision making and organizational commitment.

The findings related to audit planning indicate that this stage does not exert a significant influence on the achievement of outcomes and public value, although it does affect process performance and resource utilization. This suggests that audit planning in public sector organizations remains largely administrative and formalistic, focusing on ensuring procedural compliance rather than being directly translated into strategic organizational outcomes. From a public administration perspective, this condition reflects characteristics of Traditional Public Administration, in which planning emphasizes rule compliance over results orientation. These findings are consistent with Sihombing (2023), who argues that auditing in the Indonesian public sector remains predominantly compliance oriented rather than performance driven.

Furthermore, audit implementation does not demonstrate a significant effect on any dimension of operational efficiency. This finding reinforces the argument that the technical quality of audit execution, such as document examination, evidence collection, and procedural evaluation, is insufficient to drive organizational performance improvement in the absence of effective managerial decision making mechanisms. Within the New Public Management framework, auditing should function as a diagnostic tool for identifying inefficiencies and fostering continuous improvement. However, the results of this study indicate that audit implementation remains confined to an inspection function and has not yet evolved into a performance management instrument. This finding aligns with Williyanto et al. (2022), who emphasize that limitations in auditor independence and resource availability often constrain the substantive impact of internal auditing.

In contrast to the preceding stages, audit reporting demonstrates a positive and significant effect on the achievement of outcomes and public value as well as on resource utilization. This finding suggests that audit reports have begun to function as strategic communication instruments between auditors and management. From a public sector management perspective, audit reports serve not merely as formal documents, but also as knowledge products that provide critical information for managerial decision making. This result is consistent with the perspective of Boynton et al. (2006), who argue that the strategic value of auditing lies in the quality of information and recommendations produced. Nevertheless, the inconsistent effect of audit reporting on process performance and productivity indicates that audit information has not yet been fully integrated into the continuous improvement of daily operational processes.

The most significant finding of this study is observed in the audit follow-up stage, which exerts a strong and positive influence across all dimensions of operational efficiency, including the achievement of outcomes and public value, process performance and productivity, and resource utilization. This result underscores that audit follow-up represents a critical missing link in public sector management. Management audit generates tangible impact only when audit recommendations are consistently implemented, their execution is monitored, and they are used as a basis for improving policies and operational procedures. This finding not only reinforces the results of Hasibuan (2023), who demonstrates the significant effect of management audit on efficiency in energy sector state owned enterprises, but also extends the literature by revealing that the primary strength of management audit lies in the follow-up stage.

From a Public Value Management perspective, audit follow-up functions as a mechanism for transforming audit findings into public value. When audit recommendations are effectively implemented, organizations not only enhance internal efficiency but also strengthen

accountability, transparency, and public trust. Consequently, management audit contributes directly to public value creation rather than merely to internal administrative improvements. This perspective also explains why the audit follow-up dimension exhibits a substantially larger effect size compared to other audit stages.

In synthesis, the findings of this study indicate that management audit in corporatized public sector organizations cannot be conceptualized as a linear process in which each stage exerts an equivalent influence. Instead, management audit is hierarchical and strategic in nature, where initial stages function as administrative prerequisites, while substantive impacts on operational efficiency emerge primarily at the reporting stage and, most importantly, at the audit follow-up stage. These findings bridge a critical gap in the literature that has traditionally treated auditing, operational efficiency, and public sector management strategy as separate analytical domains.

Accordingly, this study extends theoretical contributions in public administration by emphasizing that management audit should be positioned as an integral component of the organization's strategic management cycle rather than merely as a supervisory function. The effectiveness of auditing should not be assessed solely based on the completeness of planning and execution, but rather on the extent to which audit recommendations are internalized in managerial decision making and translated into sustainable performance improvements.

4. Conclusion

This study concludes that management audit plays a strategic role in enhancing the operational efficiency of corporatized public sector organizations, although its effects are not uniform across all audit stages. The findings indicate that audit planning and audit implementation are not yet able to directly drive the achievement of outcomes and public value, even though both contribute to process management and resource utilization. This condition suggests that audits at the early stages remain largely administrative and compliance oriented, resulting in relatively limited impacts on the organization's strategic performance.

In contrast, audit reporting and, in particular, audit follow-up are proven to have positive and significant effects on organizational operational efficiency. Audit follow-up emerges as the most decisive factor in promoting productivity improvements, resource optimization, and the achievement of outcomes and public value. This finding confirms that management audit generates tangible value only when audit recommendations are consistently implemented and used as a foundation for managerial decision making.

From a theoretical perspective, these findings enrich public administration scholarship by demonstrating that management audit functions not only as a supervisory instrument but also as an integral component of public sector strategic management. This study reinforces the relevance of the New Public Management and Public Value Management paradigms by positioning management audit as an evaluation mechanism oriented toward outcomes and public value rather than solely toward procedural compliance.

From a practical standpoint, the study implies that the effectiveness of management audit in public organizations, particularly in energy sector state owned enterprises, is highly dependent on the quality of audit follow-up. Therefore, organizational management should prioritize strengthening mechanisms for implementing and monitoring audit recommendations to ensure that auditing contributes meaningfully to sustained improvements in operational efficiency and organizational performance.

Accordingly, this study affirms that the success of management audit does not lie in the completeness of audit procedures, but in the extent to which audit outcomes are translated into concrete changes in managerial practices and the creation of public value.

References

- Arens, A. A., Elder, R. J., & Beasley, M. S. (2014). *Auditing and assurance services: An integrated approach* (15th ed.). Pearson Education.
- Azmiawan, N. P., & Srimindarti, C. (2023). Pengaruh audit tenure, rotasi audit, dan ukuran perusahaan terhadap kualitas audit pada perusahaan BUMN yang terdaftar di Bursa Efek Indonesia. *MSEJ: Management Studies and Entrepreneurship Journal*, 5(1), 1–14. <https://doi.org/10.37385/msej.v5i1.4386>
- Azmiawan, N. P., & Srimindarti, C. (2023). Mendeteksi indikasi kecurangan laporan keuangan di BUMN: Analisis tata kelola perusahaan dan moderasi biaya audit. *MSEJ: Management Studies and Entrepreneurship Journal*, 5(1), 15–29. <https://doi.org/10.37385/msej.v5i1.4386>
- Bakade, S., & Paramitalaksmi, R. (2024). Pengaruh opini audit dan temuan atas kelemahan sistem pengendalian internal terhadap fraud BUMN. *MEA: Jurnal Manajemen, Ekonomi, dan Akuntansi*, 8(3), 245–260. <https://doi.org/10.31955/mea.v8i3.4780>
- Badan Pengawasan Keuangan dan Pembangunan (BPKP). (2014). *Pedoman audit manajemen*. Jakarta: BPKP.
- Boynton, W. C., Johnson, R. N., & Kell, W. G. (2006). *Modern auditing: Assurance services and the integrity of financial reporting* (8th ed.). John Wiley & Sons.
- Hasibuan, R. (2023). Pengaruh audit manajemen terhadap efisiensi keuangan pada BUMN energi di Indonesia. *Jurnal Aplikasi Manajemen*, 25(2), 210–223. <https://doi.org/10.21512/jam.v25i2.1934>
- Mahmudi. (2019). *Manajemen kinerja sektor publik* (Edisi revisi). Yogyakarta: UPP STIM YKPN.
- Mahmudah, H., & Riyanto, B. (2023). Keefektifan audit internal pemerintah daerah. *Jurnal Akuntansi*, 20(1), 45–60. <https://doi.org/10.24912/ja.v20i1.74>
- Mardiasmo. (2018). *Akuntansi sektor publik* (Edisi terbaru). Yogyakarta: Andi.
- Nasution, S., Siregar, H., & Novianti, T. (2020). Efficiency analysis of bank BUMN BUKU Empat and its determinant in Indonesia. *Jurnal Aplikasi Manajemen*, 18(1), 89–101. <https://doi.org/10.21776/ub.jam.2020.018.01.09>
- Sihombing, R. P. (2023). Mapping of internal audit quality on the public sector in Indonesia: A systematic review. *Jurnal Economia*, 19(1), 1–15. <https://doi.org/10.21831/economia.v19i1.38073>
- Setiawati, P. N., & Wijaya, A. L. (2022). Pengaruh kinerja keuangan dan komite audit terhadap nilai perusahaan BUMN di Bursa Efek Indonesia. *Kompartemen: Jurnal Ilmiah Akuntansi*, 20(2), 155–168. <https://doi.org/10.30595/kompartemen.v20i2.13320>
- Williyanto, D. B., Moeljadi, & Soedjatno. (2022). The effectiveness of internal audit in achieving good governance. *Jurnal Reviu Akuntansi dan Keuangan*, 15(2), 235–248. <https://doi.org/10.22219/jrak.v15i2.38056>
- Winarto, T., & Utomo, B. H. (2021). Penerapan audit jarak jauh (remote audit): Studi kasus pada BUMN X. *Akuntansiku*, 3(4), 321–332. <https://doi.org/10.54957/akuntansiku.v3i4.1223>