

Internal Control Systems in State-Owned Asset Management: Enhancing Budget Efficiency at the Cost of Competency

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Abstract

Efficient public asset management remains a pressing concern for developing countries like Indonesia, where inefficiencies in resource utilization persist. This study evaluates the effects of human resource competency and budget availability on the performance of state-owned asset management, moderated by internal control systems. Despite ongoing reforms, gaps in resource allocation and workforce capacity continue to hinder progress. The research uniquely addresses the interaction between internal control systems and key factors such as human resource competency and budget availability, highlighting a gap in understanding how these controls influence asset management outcomes. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), data were collected from 257 heads of vertical agencies in West Java through structured questionnaires. Results show that internal controls enhance the impact of budget availability while occasionally limiting human resource potential under excessive rigidity. Balancing strict controls with flexibility is crucial to fostering innovation and optimizing state asset management performance.

Keywords: *Budget Availability, Human Resource Competencies, Internal Control System, Performance of State-Owned Asset Management.*

1. Introduction

Over the past three decades, public asset management in the United States has been plagued by persistent issues, including asset loss, waste, misuse, obsolescence, and physical damage. These problems have led to severe consequences, such as infrastructure failures that have caused injuries and even fatalities (Lu, 2017). Similar challenges have arisen in Malaysia, where inefficiencies and poor oversight in managing government assets have raised significant public concerns about transparency and accountability (Ismail et al., 2019). In developing countries, these systemic inefficiencies highlight the critical need for comprehensive reforms to improve public asset management and ensure the effective use of resources (Grubišić, 2009). Fixed assets, such as infrastructure, are essential for delivering sustainable and reliable public services, making their proper management indispensable (Lu, 2017). Countries have introduced various initiatives to address these concerns. Malaysia, for example, launched a public asset management policy in 2009 to enhance the oversight and use of government resources (Abu Backer & Wan Yusoff, 2015). In the United States, government-owned fixed assets are classified as long-term tangible resources under GASB Statement 34, underscoring their role in providing enduring utility. Indonesia, following the enactment of Law No. 17 of 2003, took significant steps by publishing its first Central Government Financial Statements (LKPP) in 2004, which reported total assets amounting to Rp. 851.88 trillion. Over the years, Indonesia has worked to strengthen its financial reporting and governance, achieving unqualified audit opinions on the LKPP from 2016 to 2021, marking steady progress in its asset management practices. Despite these unqualified opinions, Indonesia still struggles with underutilized state assets. Finance Minister Sri Mulyani Indrawati has highlighted the need to maximize the productivity of public assets, urging collaboration between the Directorate General of State Assets (DJKN) and other ministries to improve management efficiency. This led to the introduction of Minister of Finance Decree No. 349/KM.6/2018, which established six performance indicators for assessing state assets, including their public utility, social impact, and financial viability. However, the Supreme Audit Board (BPK) reported in September 2020 that challenges such as unauthorized use, inaccurate records, and missing ownership documentation persisted. Although asset-related discrepancies dropped from 38.5% in 2017 to 11.5% in 2021, notable problems remained in 2022. These included incorrect opening balances amounting to Rp. 529.47 billion, mismanagement of Rp. 36.53 trillion in fixed assets, and unresolved inventory issues totaling Rp. 11.58 trillion (Grubišić, 2009; Jolicoeur & Barrett, 2005). In 2019, a revaluation of Indonesia's central government assets resulted in a 308% increase in value, reaching Rp. 5.95 trillion—equivalent to 37.6% of GDP. Comparatively, in many nations, government assets account for approximately 67% of GDP (Bova et al., 2021). The 2021 LKPP balance sheet indicated that current, fixed, and other assets collectively comprised 69% of total assets, reflecting the significant impact of the 2018 asset revaluation. Indonesia's asset management framework is guided by Government Regulation No. 6 of 2006, later amended by Regulations No. 27/2014 and No. 28/2020, which designated DJKN as the primary authority for managing state assets. DJKN's responsibilities include formulating policies and standards for managing state wealth and public receivables, thereby establishing a modern asset management system rooted in best practices for planning, acquisition, utilization, and disposal. In accordance with Government Accounting Standards (SAP), assets held by ministries and agencies are categorized into current, fixed, and other assets. By 2021, Indonesia's total assets had increased to Rp. 11,454.67 trillion, up from Rp. 11,098.67 trillion in 2020. Current assets grew to Rp. 769.16 trillion, while fixed assets slightly declined to Rp. 5,947.12 trillion. Meanwhile, liabilities showed mixed trends: short-term liabilities decreased to Rp. 693.38 trillion, but long-term liabilities rose to Rp. 6,844.94 trillion, bringing total liabilities to Rp. 7,538.32 trillion. Equity fell from Rp. 4,273.20 trillion in 2020 to Rp. 3,916.35 trillion in 2021.

Short-term liabilities in 2021 declined to Rp. 693.38 trillion from Rp. 701.60 trillion in the previous year, whereas long-term liabilities experienced a sharp increase, rising to Rp. 6,844.94 trillion from Rp. 5,923.87 trillion in 2020. Consequently, total liabilities reached Rp. 7,538.32 trillion. On the other hand, equity registered a slight drop to Rp. 3,916.35 trillion from Rp. 4,273.20 trillion in 2020. To enhance asset utilization, the Ministry of Finance introduced regulations aimed at aligning asset management practices with public service objectives while addressing gaps in information between asset managers and users. Government Regulation No. 28 of 2020 permits the repurposing of underutilized state assets to generate non-tax state revenue (PNBP), although the primary focus remains on serving public needs rather than profit-making (Kaganova & Nayyar-Stone, 2000).

The substantial growth in asset values highlights the importance of internal control systems in ensuring effective management of state-owned assets. These controls play a critical role in optimizing government investments by ensuring that assets are used for their designated purposes or strategically repurposed to generate non-tax state revenue (PNBP). For example, applying the "highest and best use" principle to land and buildings can help maximize efficiency and returns. A robust internal control framework not only supports compliance with asset management policies but also enhances budget efficiency by preventing misuse and misallocation of resources (Aditya & Parida, 2016). However, transitioning to an active and efficient asset management model requires alignment between internal control measures and competency development among human resources. Challenges persist in integrating control systems with competency-based approaches, highlighting the need for structured frameworks to evaluate both performance and budget outcomes (Kishk et al., 2005). Additionally, further research is needed to examine the interplay between internal controls, budget efficiency, and HR competencies in determining asset performance (Attwater et al., 2014; Gavrikova et al., 2020; Vilarinho et al., 2023).

Agency theory, introduced by Jensen and Meckling (1976) to address conflicts in private-sector management, provides valuable insights into the dynamics of internal control in state-owned asset management (Jensen & Meckling, 1976). The theory examines the principal-agent relationship, where agents (asset managers) may prioritize personal or departmental interests over the broader goals of the principal (government or taxpayers) (Hill & Jones, 1992; Mitnick, 2017). Effective internal control mechanisms are designed to mitigate these risks by

enhancing transparency, ensuring accountability, and aligning agent behavior with the principal's objectives (Mensah, 2015). However, these mechanisms may inadvertently shift focus away from developing competencies among staff, as strict compliance with controls can discourage innovation and independent decision-making. Furthermore, the public sector's unique complexities, including multiple stakeholders and diverse policy goals, require internal controls that balance procedural rigor with operational flexibility. Information asymmetry (Panda & Leepsa, 2017) and varying risk appetites (Eisenhardt, 1989) further complicate the ability of internal controls to fully address competency gaps in asset management. Over time, agency theory has been adapted to the public sector (Temizel, 2015), particularly with the rise of New Public Management (NPM) during the 1980s (Glynn & Murphy, 1996). Under this paradigm, public organizations began adopting business-oriented practices, including performance-driven internal control systems (Mir & Rahaman, 2007). In Indonesia, Law No. 17/2003 on State Finance modernized financial governance by designating the Minister of Finance as the Chief Financial Officer (CFO) and assigning operational accountability to ministry leaders functioning as Chief Operating Officers (COOs). This reform emphasized internal controls as a cornerstone of state asset management while highlighting the tension between procedural compliance and the need for competency development. Ministries and agencies are now tasked with implementing rigorous controls while ensuring that staff are adequately trained to manage assets effectively and align with policy goals.

Within this framework, an agency relationship develops between the Minister of Finance, acting as the principal in asset management, and ministry leaders, who serve as agents responsible for asset utilization. Internal controls are critical in addressing the challenges of this relationship, as they ensure resources are managed efficiently and in accordance with established guidelines. According to public budgeting theory, resource allocation must prioritize societal benefits (Lewis, 1952). However, gaps in competency—such as a lack of technical knowledge or managerial skills—can limit the effectiveness of these controls. Moreover, internal controls alone cannot guarantee optimal asset management without addressing systemic and structural issues, including leadership development and staff training. The balance between procedural compliance and competency development remains a key area for improvement, as over-reliance on rigid controls may undermine the innovative problem-solving required for asset optimization.

Empirical studies reveal the significant impact of internal control systems on asset management performance but also highlight potential trade-offs. Research in Lombok found that effective internal controls improved asset management outcomes by enhancing oversight and accountability (Astini, 2018). Similar findings in Aceh (Arlini et al., 2014) and other regions (Gunawan et al., 2017; Sanjaya et al., 2017) emphasized the role of controls in budget efficiency. However, these systems often focus on compliance, sometimes at the expense of developing competencies among human resources. For example, studies in Kupang (Bria et al., 2019) and the Ministry of Health (Mardianto, 2021) observed no significant impact of HR competency on asset management outcomes, suggesting that internal controls might overshadow the need for skill enhancement. Research from Brazil further indicated that external factors, such as regulatory environments, have a greater influence on asset management performance than individual staff competence (Fernandes et al., 2005). These findings underscore the necessity of integrating internal controls with HR development strategies to achieve balanced outcomes.

Budget availability is another factor influencing the effectiveness of asset management performance. Research in Bali found that adequate budgets enhanced the implementation of controls and improved asset utilization (Kusuma & Djinar, 2021). Conversely, studies in Malang observed that financial compensation alone did not significantly impact asset management performance (Mardianto, 2021; Prihatini et al., 2020). This suggests that while internal controls can improve budget efficiency, their success also depends on how resources are allocated and managed. Internal control systems themselves show mixed effectiveness across studies. Some research linked strong controls to better asset management (Ekayanti et al., 2018; Risambessy, 2009), whereas other studies, such as one conducted in West Java, found no notable impact (Syaifudin et al., 2020). These variations point to the need for adaptive control systems that can address local contexts while promoting competency development and operational flexibility. By achieving this balance, internal controls can play a transformative role in state-owned asset management, improving budget efficiency without compromising the skills and capabilities of human resources.

2. Literature Review

2.1. Agency and Resource-Based Perspectives: Agency theory provides a critical lens for analyzing the relationship dynamics between principals, such as government ministries overseeing assets, and agents, like state-owned enterprises or other institutions tasked with asset utilization (Ross, 1973). Its relevance lies in its ability to address potential conflicts of interest, misaligned objectives, and issues of information asymmetry that often emerge in public asset management (Hill & Jones, 1992; Panda & Leepsa, 2017). These challenges are particularly evident in the public sector, where diverse stakeholders and complex governance structures can lead to inefficiencies. Control mechanisms, such as monitoring systems and performance evaluation metrics, are necessary to align agent behavior with principal objectives and reduce agency costs (Mensah, 2015). In Indonesia, for instance, the Ministry of Finance functions as a principal, overseeing state-owned assets, while line ministries and agencies act as agents responsible for their operational use (Hadiyanto, 2009). The implementation of Law No. 17/2003 formalized this structure, reinforcing the importance of collaboration and accountability in minimizing resource mismanagement and ensuring that public assets deliver maximum societal value.

Complementing agency theory, resource-based theory focuses on the strategic management of an organization's resources—categorized as physical, human, and organizational—to achieve competitive advantages (Barney, 1991). In public asset management, this theory underscores the importance of leveraging valuable, rare, inimitable, and non-substitutable resources to optimize asset performance and efficiency (Galbreath, 2018). Human capital, particularly in fields such as law, finance, and engineering, plays a critical role in employing methodologies like the "Highest and Best Use" (HBU) approach, which maximizes the value and utility of assets in alignment with public policy objectives (Varcoe, 2002). Organizational resources, such as systems for monitoring, appraising, and allocating assets, further strengthen the strategic management of state-owned properties. In Indonesia, government-certified appraisers and the framework established under Government Regulation No. 27/2014 exemplify how resource-based strategies are institutionalized to ensure compliance with national goals and priorities. These two theories converge in their potential to serve as a dual foundation for enhancing asset management performance. Agency theory highlights the mechanisms needed to align principal-agent goals, emphasizing accountability, transparency, and structured monitoring. Meanwhile, resource-based theory addresses the strategic allocation and utilization of resources to maximize efficiency and productivity. Together, they provide a comprehensive framework for understanding the multidimensional aspects of public asset management. While agency theory focuses on resolving governance and oversight issues, resource-based theory complements this by optimizing the intrinsic value of the assets themselves. Building on these theoretical insights, asset management performance can be conceptualized as the intersection of governance effectiveness and resource optimization. According to Mardiasmo (2018), successful asset management in the public sector requires balancing operational efficiency, cost-effectiveness, and risk management. Agency theory contributes by establishing robust oversight mechanisms to mitigate information asymmetry and align agent behavior with public objectives. Simultaneously, resource-based theory provides the tools for strategically managing assets to enhance their productivity and extend their lifecycle. This integration is particularly relevant in countries like Indonesia, where the Ministry of Finance plays a dual role as a financial overseer and a resource manager.

Empirical studies further support the alignment of these theories as a foundation for improving asset management performance. Research on public asset evaluation frameworks in Australia and the Netherlands highlights the importance of linking accountability mechanisms with resource optimization strategies (AAMCoG, 2008; Attwater et al., 2014). Australia's focus on evaluating physical condition, functionality, and financial performance, coupled with the Netherlands' emphasis on stakeholder engagement, demonstrates how agency theory's emphasis on governance can complement resource-based theory's focus on strategic management. These international practices underline the value of combining strong governance systems with resource-centric strategies to achieve both traditional public service objectives and innovative revenue-generating goals.

In conclusion, agency theory and resource-based theory provide a synergistic foundation for understanding and improving asset management performance. By integrating mechanisms for governance and accountability with strategic resource allocation, these theories address both the operational and strategic dimensions of public asset management. Together, they offer a comprehensive framework for enhancing the efficiency, effectiveness, and value of state-owned assets in line with national priorities and public expectations. This dual theoretical foundation is essential for designing asset management policies that are not only robust and transparent but also adaptive to evolving economic and societal demands.

2.2. Competency and Asset Management Performance: Human resource (HR) competency is fundamental to improving organizational performance. Moehariono (2018) describes competency as the core attributes of individuals—knowledge, skills, and behaviors—that directly contribute to effective job performance. In accounting, for instance, the International Accounting Education Standards Board (IAESB, 2014) highlights technical expertise, ethics, and professionalism as critical components of competency. Similarly, Spencer and Spencer (2006) identify five key dimensions: motives, traits, self-concept, knowledge, and skills, all of which are vital for achieving superior performance. Competencies are categorized into technical (job-specific) and general (interpersonal) types, both essential for organizational success (Škrinjarčić & Domadenik, 2020; Salman et al., 2020). In asset management, HR competency plays a significant role in ensuring operational efficiency and resource optimization (Al Marzooqi et al., 2019).

In government settings, HR competency is critical for delivering effective public services. Research on local government employees in Indonesia shows that the skills of asset managers significantly impact asset management performance (Arlini et al., 2014; Astini, 2018). Competency is often viewed as an intangible asset, emphasizing the importance of recruiting and developing staff with strong technical and interpersonal capabilities (Prihatini et al., 2020). Indonesian civil service regulations identify technical, managerial, and socio-cultural skills as essential for professional performance. However, a shortage of skilled personnel, especially in local governments, remains a persistent challenge (White et al., 2011). Addressing this requires targeted training and recruitment, including engaging talent from the private sector, to strengthen asset management practices. Based on these findings, the following hypothesis is proposed:

H1: Human resource (HR) competency positively influences asset management performance.

2.3. Budget Availability and Asset Management Performance: Budget availability is a crucial factor in resource management, encompassing financial, human, technological, and informational assets (Simamora, 2011). Proper budgeting ensures that resources are allocated effectively, supporting organizational operations and objectives while enhancing professionalism (Idris & Konadi, 2012). Budgeting also functions as a control mechanism, allowing organizations to measure outcomes against planned objectives (Wahyuni, 2019). In asset management, adequate budget allocation is necessary for both maintaining assets and incentivizing asset managers. Financial and non-financial rewards, such as salaries, bonuses, recognition, and career development, are critical for motivating employees and improving their performance (UNDP, 2006). Budget availability is particularly critical in the public sector, where governments manage and maintain public assets. Insufficient budgets can lead to asset deterioration and disrupt essential services (Fadilah & Lutfi, 2017). Agreements with external parties often include provisions for asset maintenance, ensuring costs are shared. In addition to operational budgets, financial and non-financial incentives play a key role in enhancing performance. Financial rewards, such as salaries and pensions, are complemented by non-financial benefits like career advancement and flexibility (UNDP, 2006). These factors highlight the importance of budgetary support in improving asset management outcomes. Thus, the following hypothesis is proposed:

H2: Budget availability positively influences asset management performance.

2.4. Dual Role of Internal Controls in Asset Management Performance

Internal control systems are structured processes implemented by organizations to achieve objectives related to operations, reporting, and compliance (COSO, 1994). These systems are based on five key components: control environment, risk assessment, communication, control activities, and monitoring (Le & Tran, 2018). A well-established control environment mitigates risks of resource mismanagement, while risk assessment identifies and addresses potential vulnerabilities. Effective communication ensures clear information flow, and control activities provide safeguards through established procedures. Regular monitoring maintains the relevance and efficacy of internal controls, ensuring long-term organizational stability. Internal control systems can influence the relationship between HR competency and budget efficiency. Competency extends beyond technical knowledge to include personal attributes like motivation and decision-making, which contribute to innovation and efficiency in asset management (Axley, 2008; Al Marzooqi et al., 2019). However, when internal controls are overly rigid, they may limit the flexibility of HR to exercise professional judgment, potentially reducing the strategic application of their expertise. At the same time, internal controls are vital for ensuring budget allocations are used effectively to maintain and optimize state-owned assets, reducing inefficiencies and enhancing accountability (PP No. 60/2008). Thus, based on these dynamics, the following hypotheses are proposed:

H3: Internal control systems reduce the influence of human resource competency on asset management performance by prioritizing procedural compliance.

H4: Internal control systems enhance the impact of budget availability on asset management performance by improving efficiency and accountability.

3. Methodology

3.1. Research Design

This quantitative research adopts a positivist paradigm to explore the influence of human resource competency (ξ_1) and budget availability (ξ_2) on state asset management performance (η_1), with internal control systems (ξ_3) acting as a moderating variable. Using a Moderated Regression Analysis (MRA) framework and hierarchical regression design, this study rigorously analyzes both direct effects and the moderating role of internal controls, offering insights into how these factors interact to shape performance outcomes.

The hypothesis $\gamma_1\xi_1$ proposes that human resource competency (ξ_1) positively impacts asset management performance (η_1). Skilled personnel with technical expertise, managerial abilities, and interpersonal competencies contribute to more effective and efficient asset management. Similarly, the hypothesis $\gamma_2\xi_2$ suggests that budget availability (ξ_2) directly enhances performance (η_1) by providing adequate resources for asset maintenance, operational support, and employee motivation. Additionally, $\gamma_3\xi_3$ posits that internal control systems (ξ_3) independently improve asset management performance (η_1). These systems, through mechanisms such as risk management, compliance, and monitoring, ensure alignment with organizational goals and reduce inefficiencies.

Moving to the moderating effects, the interaction term $\omega_1(\xi_3 * \xi_1)$ hypothesizes that internal control systems (ξ_3) influence the relationship between HR competency (ξ_1) and performance (η_1). While controls enhance accountability and compliance, they might also limit HR flexibility and innovation, thereby altering the overall impact of HR competency. Similarly, $\omega_2(\xi_3 * \xi_2)$ suggests that internal controls (ξ_3) strengthen the effect of budget availability (ξ_2) on performance (η_1) by ensuring efficient budget utilization and preventing resource mismanagement.

The MRA analysis is conducted in two stages to capture these dynamics. First, a non-moderation model evaluates the direct effects, represented by the structural equation:

$$\eta_1 = \gamma_1\xi_1 + \gamma_2\xi_2 + \gamma_3\xi_3 + \zeta_1 \quad (1)$$

Second, a moderation model incorporates interaction terms to evaluate how internal controls modify these relationships:

$$\eta_1 = \gamma_1\xi_1 + \gamma_2\xi_2 + \gamma_3\xi_3 + \omega_1(\xi_3 * \xi_1) + \omega_2(\xi_3 * \xi_2) + \zeta_1 \quad (2)$$

To test these models, this study utilizes Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM is well-suited for analyzing complex models with interactions, providing a robust approach to examine both direct and moderating effects (Hair et al., 2018; Matthews et al., 2018).

3.2. Population and Sample

This study focuses on Kepala Satuan Kerja, or heads of vertical agencies and work units, within ministries and agencies in West Java Province. These roles, typically held by pejabat eselon III, are critical for decision-making in state asset management. As of January 1, 2022, there were 690 head of DJKN under the operational jurisdiction of the West Java Regional Office of DJKN, holding ranks ranging from Penata Tingkat I (III/d) to Pembina Tingkat I (IV/b). To examine causal relationships, Structural Equation Modeling (SEM) was employed, with a minimum sample size of 253 determined using the Slovin formula. Proportional random sampling was applied to ensure representative coverage across six regions of West Java. The sample distribution was as follows: Bandung (87), Bogor (62), Cirebon (36), Tasikmalaya (28), Purwakarta (22), and Bekasi (18). This method ensured a diverse sample while maintaining flexibility to increase the size if necessary.

A total of 257 heads of work units from 31 ministries and agencies participated in the study by completing questionnaires, exceeding the minimum sample size required. The Ministry of Finance contributed the largest number of respondents, followed by the Ministry of Religious Affairs, the Ministry of Law and Human Rights, the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency, and the Central Statistics Agency. Among the respondents, 92.61% indicated that they had received training or acquired knowledge on State-Owned Asset management, while 7.39% had not. Common sources of this knowledge included webinars, formal training sessions, or a combination of both formats. Demographically, the sample exhibited a significant gender disparity, with males comprising 70.43% of respondents, while females accounted for 29.57%. In terms of age, the majority fell within the 40–50 age range, considered ideal for administrative roles, followed by respondents over 50 years old, with a smaller proportion aged between 30 and 40. Professional experience showed that over half of the participants had served as Echelon III administrators for 1 to 5 years, while others had more than a decade of experience. Most respondents held the Penata (III/c) rank, with fewer occupying higher ranks, reflecting a mix of mid- and senior-level leadership. The gender gap, varying levels of experience, and training backgrounds highlight critical aspects of the workforce, providing a foundation for understanding their capabilities and challenges in managing state-owned assets.

3.3. Construct Measurement

The variable of human resource competency in this study is evaluated using several key indicators: motives, traits, self-concept, knowledge, and skills. Motives are gauged by employees' understanding of their responsibilities in managing State-Owned Assets, their accountability in completing tasks, and their commitment to continuous improvement in asset management practices (Spencer & Spencer, 1993; Al Marzooqi et al., 2019). Traits are reflected in employees' ability to deliver excellent service, uphold a strong work ethic, and demonstrate discipline in fulfilling their obligations (Ekayanti et al., 2018; Arlini et al., 2014). Self-concept focuses on confidence in executing asset management tasks, adhering to regulatory standards, and prioritizing effective management strategies. Knowledge is assessed by an individual's capacity to formulate work plans, coordinate tasks within the organization, and apply technical expertise in asset management. Skills are measured by the ability to break down general responsibilities into actionable steps, perform tasks innovatively, and pursue creative approaches to enhance State-Owned Asset Management. The human resource competency variable is measured using a total of 15 items to comprehensively assess these dimensions (see Appendix 1).

Budget availability refers to the financial resources allocated through the national budget (APBN) to support and enhance asset performance (UNDP, 1994; Idris & Konadi, 2012). Key indicators include the source of funding, alignment between budget allocation and planning, and the sufficiency of financial resources to address asset management requirements (Kusuma & Djinar, 2021). The ability to manage these budgets is evaluated based on compliance with regulatory standards, the clarity and relevance of budgetary indicators, and transparency in budget implementation. Budget availability is assessed using nine items that cover these critical aspects (see Appendix 1). Internal control systems are examined through their core components: control environment, risk assessment, control activities, information and communication, and monitoring processes. These systems are characterized by the presence of a code of ethics, the implementation of risk management practices, consistent performance evaluations, and the establishment of open and transparent communication channels (COSO, 1994; SPIP, 2018; Le & Tran, 2018). The internal control system variable is measured through 17 items to capture the comprehensiveness of its components (see Appendix 1).

The performance of State-Owned Asset Management is measured using indicators such as alignment with public objectives, social impact, stakeholder satisfaction, technical condition, financial sustainability, and future potential. These metrics assess how effectively assets fulfill organizational functions and meet the expectations of stakeholders while supporting long-term operational goals (Varcoe, 2002; Kishk, 2005; AAMCoG, 2008; DJKN, 2018). The performance variable is evaluated using a total of 18 items to ensure a thorough assessment of its various dimensions (see Appendix 1).

3.4. Construct Reliability and Validity Evaluation

The evaluation of the measurement model in this study confirms that the constructs—Competency, Budget Availability, Internal Control, and Asset Management Performance—demonstrate strong internal consistency and convergent validity (see Appendix 1). Competency, measured using 15 indicators, exhibits high reliability, with a Cronbach's Alpha of 0.942, Composite Reliability (CR) calculated using ρ_a at 0.945, and ρ_c at 0.949. The Average Variance Extracted (AVE) for Competency is 0.556, indicating that over 50% of the variance in the observed indicators is explained by the latent variable, confirming its strong convergent validity (Garson, 2016; Putra, 2022).

Indicator loadings range from 0.563 to 0.806, exceeding the commonly accepted threshold of 0.5, ensuring that the indicators effectively measure the construct (Hair et al., 2016; Sarstedt et al., 2016).

Similarly, the Budget Availability construct, assessed through nine indicators, demonstrates robust reliability, with a Cronbach's Alpha of 0.964 and Composite Reliability scores using rho_a at 0.965 and rho_c at 0.969. The AVE for this construct is 0.776, providing strong evidence of its validity. Indicator loadings range from 0.802 to 0.926, further affirming the strength of the measurement model for this construct (Hair et al., 2016). The Internal Control construct, evaluated using 17 indicators, achieves a Cronbach's Alpha of 0.969, with rho_a CR at 0.971 and rho_c CR at 0.972. An AVE of 0.670 exceeds the recommended threshold, confirming solid convergent validity (Fornell & Larcker, 1981).

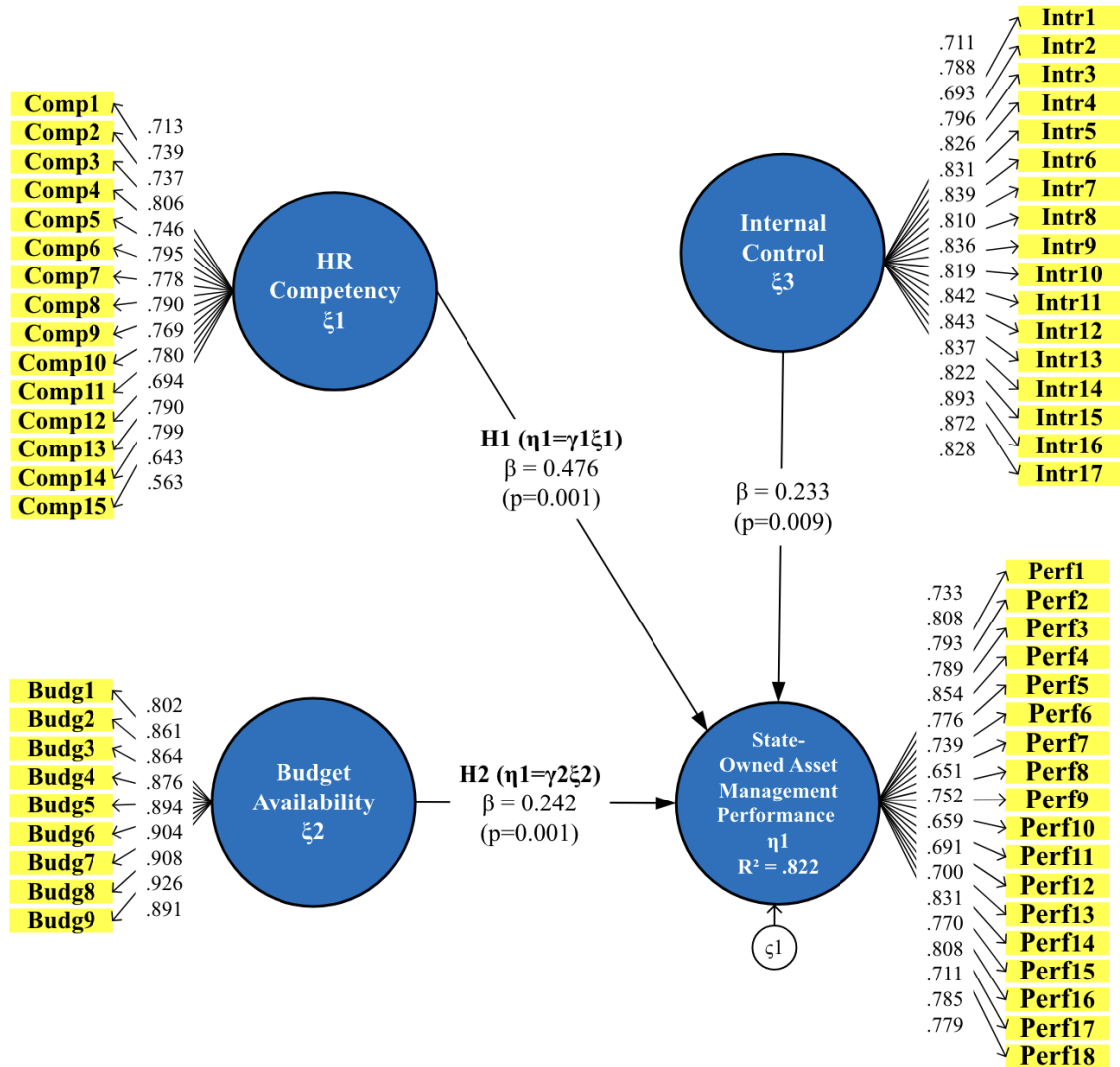


Figure 1. Results of Non-Interaction Model

The construct for Asset Management Performance, measured with 18 indicators, also demonstrates strong reliability, with a Cronbach's Alpha of 0.956 and Composite Reliability scores using rho_a at 0.958 and rho_c at 0.961. The AVE for this construct is 0.576, indicating that the majority of the variance is captured by the latent variable. Indicator loadings range between 0.651 and 0.854, supporting the robustness of this construct (Hair et al., 2016). Discriminant validity assessments further confirm that the constructs are sufficiently distinct from one another. The square root of each construct's AVE is greater than its correlations with other constructs, demonstrating clear differentiation between constructs (Fornell & Larcker, 1981). Additionally, the Heterotrait-Monotrait (HTMT) ratio inference confirms the discriminant validity, with all confidence intervals below 1.00, affirming the distinctiveness of each construct (Henseler et al., 2015). Overall, the measurement model is validated as both reliable and valid, providing a strong foundation for advancing to structural equation modeling (SEM). The constructs and their indicators are confirmed to accurately reflect the theoretical variables, ensuring the model's suitability for further analysis (Dijkstra & Henseler, 2015).

4. Results and Findings

The structural model evaluation aimed to analyze the relationships among constructs and assess the overall model fit. This analysis involved comparing the baseline model without interaction moderation to the moderated model to determine the impact of moderation on variable relationships. In the baseline model, the predictive strength for Asset Management Performance is demonstrated by an R² value of 0.822 and an adjusted R² of 0.820. This indicates that 82.0% of the variance in Asset Management Performance is explained by the predictors Competency and Budget Availability, reflecting a robust model fit. Predictive relevance, as measured by Q², ranges from 0.336 to 0.596, signifying moderate predictive accuracy. The Standardized Root Mean Square Residual (SRMR) for the baseline model is 0.068, which is below the acceptable threshold of 0.08, confirming a good model fit (Hair et al., 2016). After incorporating interaction moderation into the model, the R² value for Asset Management Performance increases slightly to 0.827, with an adjusted R² of 0.823. This reflects an additional 0.3% variance explained due to the interaction effects. The Q² values also improve slightly, ranging from 0.348 to 0.595. The SRMR remains consistent at 0.068, still within the acceptable range for model fit.

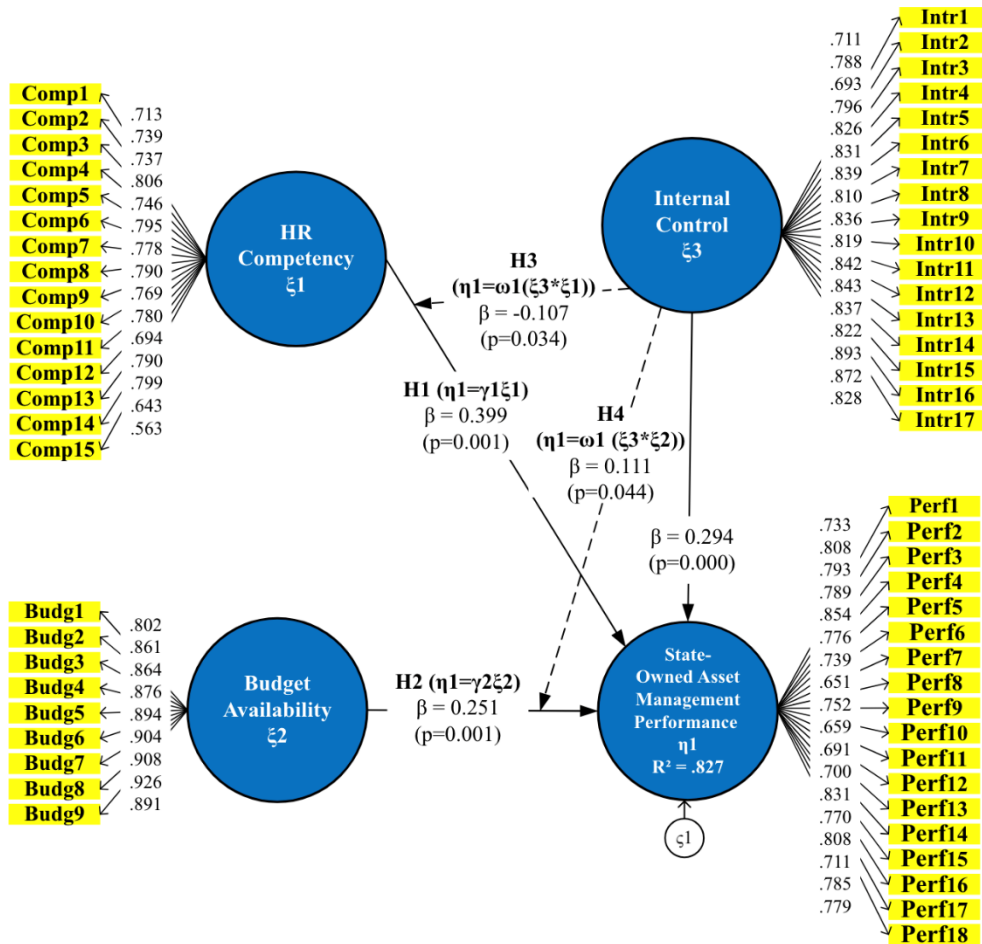


Figure 2. Results of Interaction Model

The PLS Predict evaluation, presented in Appendix 2, offers further evidence of the model's predictive robustness. For most indicators, the Root Mean Square Error (RMSE) values in the PLS-SEM model are lower than those in the Linear Model (LM), indicating superior predictive relevance for the PLS model. However, one exception is indicator AMP11, where the RMSE for PLS-SEM (0.777) is slightly higher than that of the LM (0.763), suggesting lower prediction accuracy for this specific indicator. Despite this outlier, the PLS model demonstrates medium predictive power across most indicators, confirming its overall reliability (Shmueli et al., 2019). The moderated model continues to exhibit an acceptable fit based on SRMR and NFI values, though the moderation does not significantly enhance model performance. The incremental improvements in predictive accuracy are minimal, with the core predictors—Competency and Budget Availability—remaining the primary determinants of Asset Management Performance. These results highlight the robustness of the predictors while suggesting that exploring additional moderating variables may offer more substantial contributions to improving the model's explanatory power.

Table 1. Hypothesis Testing

	β	t	p	CI 2.5%	CI 97.5%	R ²	R ² adj.	Q ² predict
Main Model								
COMP → PERF ($\eta_1 = \gamma_1 \xi_1$)	0.476	6.919	0.001	0.331	0.602	0.822	0.820	0.811
BUDG → PERF ($\eta_1 = \gamma_2 \xi_2$)	0.242	3.436	0.001	0.106	0.385			
Moderated Model								
COMP → PERF ($\eta_1 = \gamma_1 \xi_1$)	0.399	6.386	0.001	0.275	0.522	0.827	0.823	0.818
BUDG → PERF ($\eta_1 = \gamma_2 \xi_2$)	0.251	3.502	0.001	0.110	0.393			
INTR → PERF ($\eta_1 = \gamma_3 \xi_3$)	0.294	3.525	0.001	0.137	0.465			
INTR x COMP → PERF ($\eta_1 = \omega_1 (\xi_3 * \xi_1)$)	-0.107	2.126	0.034	-0.200	0.000			
INTR x BUDG → PERF ($\eta_1 = \omega_1 (\xi_3 * \xi_2)$)	0.111	2.019	0.044	-0.011	0.207			

Notes: β means Path Coefficient. t means t value. p means p value. CI means Confidence Interval.

Source: SmarPLS Output (2024)

The hypothesis testing results provide critical insights into the role of Internal Control Systems in state-owned asset management, particularly in enhancing budget efficiency while potentially diminishing the influence of human resource competency. The moderated model reveals nuanced dynamics, underscoring the dual role of Internal Control as both an enabler of budget optimization and a constraint on the effectiveness of competency in asset management. In the moderated model, Internal Control demonstrates a significant direct effect on Asset Management Performance ($\eta_1 = \gamma_3 \xi_3$), with a path coefficient (β) of 0.294, a t-value of 3.525, and a p-value of 0.001. This finding highlights the critical contribution of robust internal control mechanisms—such as risk assessments, compliance protocols, and performance monitoring—toward achieving better asset management outcomes. These controls ensure that state-owned assets are managed in alignment with regulatory requirements and organizational goals, directly strengthening performance. The interaction between Internal Control and Competency ($\eta_1 = \omega_1 (\xi_3 * \xi_1)$) reveals a negative moderating effect, with a β of -0.107, a t-value of 2.126, and a p-value of 0.034. This result suggests that while Internal Control ensures governance and accountability, it may introduce procedural rigidity that reduces the flexibility and innovative potential of human resources. Competency, which encompasses skills like strategic decision-making and creative problem-solving, may be constrained

under strict internal control measures, limiting its overall impact on performance. Conversely, the interaction between Internal Control and Budget Availability ($\eta_1 = \omega_2(\xi_3 * \xi_2)$) shows a positive moderating effect, with a β of 0.111, a t-value of 2.019, and a p-value of 0.044. This indicates that Internal Control enhances the relationship between Budget Availability and Asset Management Performance. By ensuring transparency, oversight, and adherence to financial accountability standards, Internal Control systems optimize the allocation and utilization of budgetary resources, amplifying their impact on asset performance. In the main model, Competency ($\eta_1 = \gamma_1\xi_1$) demonstrates a strong positive influence on Asset Management Performance, with a β of 0.476, a t-value of 6.919, and a p-value of 0.001. This confirms that human resource competency plays a crucial role in driving asset management success, as skilled personnel contribute technical expertise, strategic insights, and effective problem-solving capabilities. Similarly, Budget Availability ($\eta_1 = \gamma_2\xi_2$) exhibits a significant positive effect, with a β of 0.242, a t-value of 3.436, and a p-value of 0.001. This demonstrates that sufficient and appropriately allocated budgets enable efficient resource management, planning, and operational continuity, all of which are essential for improving asset performance.

These findings highlight a trade-off inherent in the role of Internal Control Systems. On the one hand, Internal Control strengthens budget efficiency by optimizing financial resource management ($\eta_1 = \omega_2(\xi_3 * \xi_2)$); on the other hand, it may weaken the influence of Competency ($\eta_1 = \omega_1(\xi_3 * \xi_1)$) by prioritizing compliance over creativity and strategic flexibility. This duality underscores the need for a balanced approach to internal controls—one that fosters fiscal accountability without stifling the adaptive and innovative potential of human resources. In conclusion, the results demonstrate that while Internal Control Systems play a vital role in enhancing Budget Availability's contribution to performance, they can reduce the effectiveness of Competency in asset management. Addressing this trade-off requires recalibrating internal controls to simultaneously ensure accountability and preserve the flexibility of human resources, enabling a more comprehensive improvement in state-owned asset management performance.

5. Discussion

The findings of this study reveal that human resource (HR) competencies have a significant and direct influence on the performance of State-Owned Asset Management. Structural model evaluation shows that attributes such as motives, traits, self-concept, knowledge, and skills are crucial determinants of effective asset management performance. These results align with agency theory (Jensen & Meckling, 1976), which emphasizes aligning the interests of principals and agents within organizational settings. In State-Owned Asset Management, principals (supervisors) often possess more complete information than agents (employees), reversing traditional information asymmetry assumptions in agency theory and highlighting the essential role of HR knowledge in asset management. The study's findings also support the resource-based view (RBV) theory (Barney, 1991), which identifies human resources as vital assets for organizational success. According to RBV, well-developed HR competencies are indispensable for enhancing organizational performance. Public sector organizations must maintain and strengthen their resource capacity, particularly human resources, to ensure optimal outcomes. This aligns with prior research by Škrinjaric and Domadenik (2020), which underscores the adverse effects of HR competency gaps on organizational performance. Furthermore, studies by Ismail (2019) and Astini (2018) consistently demonstrate that employee knowledge has a substantial impact on asset management practices. However, contrasting findings, such as those by Fernandes (2005), suggest that HR competencies do not always directly correlate with performance, potentially due to contextual factors such as organizational structure, respondent characteristics, or research settings.

The availability of budgets also plays a critical role in determining the performance of State-Owned Asset Management. Structural model analysis confirms that proper budget allocation, availability, and management are key predictors of success. These findings align with research by Lidia (2015) and Kusuma & Djinar (2021), which emphasize that effective budget management contributes to optimal outcomes. Similarly, Varcoe (2002) highlights the importance of resource efficiency, including budget allocation, as a central factor in asset management performance. The internal control system is identified as a significant moderating variable in the relationship between HR competencies and the performance of State-Owned Asset Management. While internal controls are essential for ensuring compliance and mitigating risks, excessive reliance on rigid systems can create an inflexible work environment. This rigidity can restrict HR professionals from fully applying their skills, as the focus shifts from critical thinking and problem-solving to strict procedural adherence. Research by Darwanis and Nourmaliza (2020) supports this, indicating that over-reliance on internal controls can hinder proactive asset management by emphasizing compliance over performance. Moreover, studies have shown that an over-dominance of internal controls can stifle HR's potential to develop and apply vital competencies. For instance, Wang and Hooper (2017) observed that in Chinese organizations, excessive internal controls created a compliance-driven culture, limiting HR professionals' ability to contribute meaningfully to performance improvements. Similar challenges are evident in other organizations, where restrictive environments undermine creativity and autonomy in managing state assets. Achieving a balance between internal controls and HR competencies is essential for fostering an environment that supports effective asset management. Research from Jordanian organizations by El-Khateeb et al. (2023) further demonstrates that while internal controls are necessary, they should not overshadow HR's ability to exercise judgment and innovative problem-solving in asset management.

In the Indonesian context, Dalimunthe et al. (2018) found that an over-reliance on strict internal controls often leads to inefficiencies in managing state assets. This limits HR's capacity to proactively address asset management challenges, ultimately diminishing organizational performance. Therefore, internal controls should complement HR competencies rather than constrain them, creating an environment that enables both compliance and efficiency. The role of internal controls as a moderator between budget availability and the performance of State-Owned Asset Management is also confirmed to be statistically significant. Findings indicate that the interaction between budget availability and internal controls enhances performance by ensuring that resources are allocated and utilized effectively. Structural model evaluation supports this conclusion, demonstrating that internal controls strengthen the relationship between budget availability and asset management performance. Through components such as risk assessment, control activities, and effective communication, internal controls ensure that budget allocations contribute to efficient and effective asset management practices.

These findings are consistent with previous research. Kaganova and Nayyar-Stone (2000) concluded that public asset management prioritizes providing assets to the public at efficient costs. Lima and Costa (2019) also highlighted that asset management efficiency is achieved through a balance of costs and effective resource utilization, including budget allocation. Internal controls help achieve this balance by providing oversight mechanisms that ensure resources are used optimally.

Furthermore, Varcoe (2002) emphasized that asset performance can be assessed based on efficient resource utilization, achievement of intended outcomes, and economic management. Internal controls play a pivotal role in moderating this process, ensuring that available budgets are directed toward achieving the best outcomes. This reinforces the importance of internal controls in enhancing the impact of budget availability on asset management performance. The study concludes that while budget availability is a key factor in determining the performance of State-Owned Asset Management, the presence of robust internal controls is critical to ensuring efficiency. Internal controls provide safeguards against fraud and mismanagement, as noted by Le Tran (2018), and offer assurance that resources are effectively utilized. These findings underscore the importance of integrating flexible internal control systems that support, rather than constrain, HR competencies and budget efficiency for improved asset management performance.

6. Conclusion

The research findings highlight the complex role of the Internal Control System in moderating the impact of human resource (HR) competencies and budget availability on the performance of State-Owned Asset management. While HR competencies and budget availability are undeniably critical factors, excessive reliance on rigid internal controls can inadvertently diminish their positive effects. Overly strict control mechanisms may restrict HR professionals' ability to apply their expertise, judgment, and creativity—essential components for effective and innovative asset management. To address this challenge, organizations must strive to achieve a balance between maintaining necessary internal controls and allowing HR professionals the flexibility to fully utilize their competencies. Public sector agencies are encouraged to periodically evaluate and adjust their internal control frameworks to prevent excessive procedural rigidity that may stifle creativity and hinder problem-solving capabilities. Additionally, ongoing investment in HR development is vital to ensure that employees are equipped with the skills required to manage the complexities of asset management effectively while adhering to compliance standards. From an academic standpoint, further exploration is needed to understand the nuanced relationship between internal control systems and HR competencies. Future studies could investigate how specific control mechanisms influence different aspects of HR competencies, such as technical skills, decision-making, and interpersonal abilities. Identifying the conditions under which internal controls enhance or impede HR performance could provide valuable insights. Comparative research across various public sector organizations and geographic regions could also shed light on how contextual differences shape the interactions among HR competencies, budget availability, and internal control systems in asset management. In summary, while internal controls are indispensable for ensuring compliance and minimizing risks, they should be designed to complement rather than constrain HR competencies. A flexible and adaptive control environment enables public sector organizations to maximize the potential of both their human and financial resources. By fostering such an environment, organizations can enhance the performance of State-Owned Asset management, improve operational efficiency, and cultivate a culture of innovation and proactive resource management.

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Appendices

Appendix 1. Construct Reliability and Validity Evaluation

Item(s)	Convergent & Reliability Construct				Discriminant			
	Loadings	CA	CR (rho_a)	CR (rho_c)	AV E	CI 2.5%	CI 97.5%	
HR Competency (ξ1)				0.942	0.945	0.949	0.556	
Comp1	<i>I understand my duties and responsibilities in managing state-owned assets (BMN).</i>	λx1	0.713				0.629	0.785
Comp2	<i>The management of state-owned assets (BMN) assigned to me is completed effectively.</i>	λx2	0.739				0.664	0.801
Comp3	<i>I always strive to improve my ability to manage state-owned assets (BMN).</i>	λx3	0.737				0.650	0.804
Comp4	<i>I always provide excellent service.</i>	λx4	0.806				0.749	0.854
Comp5	<i>I have a strong work ethic.</i>	λx5	0.746				0.676	0.804
Comp6	<i>I am always disciplined in completing tasks.</i>	λx6	0.795				0.728	0.848
Comp7	<i>I am confident in my ability to manage state-owned assets (BMN).</i>	λx7	0.778				0.722	0.827
Comp8	<i>In managing state-owned assets (BMN), I work in accordance with the regulations.</i>	λx8	0.790				0.720	0.846
Comp9	<i>My top priority is to manage state-owned assets (BMN) effectively.</i>	λx9	0.769				0.712	0.819
Comp10	<i>I can create a work plan for managing state-owned assets (BMN).</i>	λx10	0.780				0.706	0.837
Comp11	<i>I can align tasks within the organization.</i>	λx11	0.694				0.610	0.761
Comp12	<i>I have sufficient technical knowledge in managing state-owned assets (BMN).</i>	λx12	0.790				0.736	0.837
Comp13	<i>I can break down general management tasks for state-owned assets (BMN) into more detailed ones.</i>	λx13	0.799				0.725	0.854
Comp14	<i>I am always creative in carrying out the management of state-owned assets (BMN).</i>	λx14	0.643				0.551	0.722
Comp15	<i>I always seek innovations in the management of state-owned assets (BMN).</i>	λx15	0.563				0.447	0.658
Budget Availability (ξ2)				0.964	0.965	0.969	0.776	
Budg1	<i>There is budgetary support for the management of state-owned assets (BMN) from the State Budget (APBN).</i>	λx16	0.802				0.740	0.852
Budg2	<i>The budget for managing state-owned assets (BMN) is prepared in accordance with planning documents.</i>	λx17	0.861				0.813	0.898
Budg3	<i>The budget sourced from the State Budget (APBN) aligns with the established plans.</i>	λx18	0.864				0.819	0.900
Budg4	<i>The allocation of the budget for managing state-owned assets (BMN) is fulfilled annually.</i>	λx19	0.876				0.836	0.909
Budg5	<i>There is a budget allocation for the management of state-owned assets (BMN).</i>	λx20	0.894				0.846	0.930
Budg6	<i>There is a budget allocation for incentives for state-owned asset (BMN) managers.</i>	λx21	0.904				0.877	0.926
Budg7	<i>I prepare the budget for managing state-owned assets (BMN) in accordance with regulations.</i>	λx22	0.908				0.879	0.932
Budg8	<i>The budget I prepare includes clear indicators.</i>	λx23	0.926				0.906	0.943
Budg9	<i>Budget management in the organization where I work is carried out transparently.</i>	λx24	0.891				0.858	0.921
Internal Control (ξ3)				0.969	0.971	0.972	0.670	
Intr1	<i>The organization where I work has a code of ethics.</i>	λx25	0.711				0.633	0.775
Intr2	<i>The organization where I work has clear regulations regarding sanctions.</i>	λx26	0.788				0.725	0.837
Intr3	<i>Employees in the organization where I work undergo performance evaluations.</i>	λx27	0.693				0.593	0.774
Intr4	<i>The inspectorate evaluates the management of state-owned assets (BMN) in my workplace.</i>	λx28	0.796				0.738	0.841
Intr5	<i>The inspectorate evaluates risk management in my organization.</i>	λx29	0.826				0.775	0.866
Intr6	<i>The organization where I work conducts risk management identification.</i>	λx30	0.831				0.786	0.87
Intr7	<i>Risk management identification is documented.</i>	λx31	0.839				0.794	0.876
Intr8	<i>The organization where I work has analyzed risks.</i>	λx32	0.810				0.763	0.852
Intr9	<i>There is a mechanism to review performance.</i>	λx33	0.836				0.789	0.875
Intr10	<i>The administration of all state-owned assets (BMN) is adequate.</i>	λx34	0.819				0.771	0.860
Intr11	<i>There is a separation between cash managers and asset managers in the organization where I work.</i>	λx35	0.842				0.783	0.891
Intr12	<i>Job responsibilities have been communicated to all employees.</i>	λx36	0.843				0.799	0.881
Intr13	<i>There is a communication channel available for all employees.</i>	λx37	0.837				0.784	0.879
Intr14	<i>There is a fraud reporting mechanism in the organization where I work.</i>	λx38	0.822				0.772	0.870
Intr15	<i>The organization where I work has a unit for monitoring the management of state-owned assets (BMN).</i>	λx39	0.893				0.865	0.918
Intr16	<i>There is evidence that the monitoring function for managing state-owned assets (BMN) has been carried out.</i>	λx40	0.872				0.833	0.904
Intr17	<i>The monitoring of state-owned assets (BMN) management is conducted periodically.</i>	λx41	0.828				0.781	0.869
State-Owned Asset Management Performance (η1)				0.956	0.958	0.961	0.576	
Perf1	<i>State-owned assets (BMN) in my organization are acquired for the execution of organizational duties and functions.</i>	λy1	0.733				0.627	0.814
Perf2	<i>The organizational duties and functions involve serving stakeholders.</i>	λy2	0.808				0.733	0.864

Perf3	The primary stakeholders of the organization where I work are the public.	λy_3	0.79 3					0.746	0.833
Perf4	BMN contributes to economic growth in the surrounding area of my organization.	λy_4	0.78 9					0.701	0.852
Perf5	BMN enhances the welfare of the population in the vicinity of my organization.	λy_5	0.85 4					0.814	0.887
Perf6	The utilization of BMN aligns with the organizational duties and functions.	λy_6	0.77 6					0.712	0.829
Perf7	The functions of BMN meet stakeholder expectations.	λy_7	0.73 9					0.663	0.804
Perf8	BMN facilitates stakeholders in accessing services.	λy_8	0.65 1					0.553	0.740
Perf9	The durability of BMN meets stakeholder expectations.	λy_9	0.75 2					0.686	0.807
Perf10	The physical condition of BMN is maintained regularly.	λy_{10}	0.65 9					0.544	0.756
Perf11	Maintenance costs for BMN are always provided through the State Budget (APBN).	λy_{11}	0.69 1					0.610	0.761
Perf12	BMN maintenance does not disrupt the organizational duties and functions.	λy_{12}	0.70 0					0.597	0.786
Perf13	BMN in my organization generates non-tax state revenue (PNBP).	λy_{13}	0.83 1					0.782	0.872
Perf14	The PNBP generated is greater than the maintenance costs.	λy_{14}	0.77 0					0.701	0.826
Perf15	BMN that does not generate PNBP still retains economic value.	λy_{15}	0.80 8					0.759	0.849
Perf16	The market value of BMN in my organization is expected to increase in the future.	λy_{16}	0.71 1					0.629	0.781
Perf17	BMN in my organization is essential for providing services to stakeholders.	λy_{17}	0.78 5					0.733	0.830
Perf18	A future management plan for BMN has been developed by the organization.	λy_{18}	0.77 9					0.725	0.825

Notes: CA means Cronbach's Alpha. CR means Composite Reliability. AVE means Average Variance Extracted. CI means Confidence Interval.

Appendix 2. PLS Predict Evaluation

	Q ² predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
Main Model					
Perf1	0.417	0.612	0.442	0.637	0.465
Perf2	0.530	0.582	0.402	0.595	0.403
Perf3	0.538	0.626	0.450	0.650	0.478
Perf4	0.512	0.625	0.445	0.653	0.470
Perf5	0.579	0.539	0.390	0.543	0.394
Perf6	0.473	0.700	0.529	0.721	0.543
Perf7	0.448	0.607	0.465	0.609	0.471
Perf8	0.345	0.806	0.621	0.849	0.652
Perf9	0.424	0.715	0.547	0.726	0.552
Perf10	0.336	0.794	0.608	0.796	0.618
Perf11	0.337	0.777	0.591	0.763	0.616
Perf12	0.359	0.715	0.536	0.715	0.542
Perf13	0.596	0.529	0.406	0.547	0.409
Perf14	0.536	0.544	0.400	0.577	0.432
Perf15	0.544	0.562	0.407	0.592	0.444
Perf16	0.445	0.602	0.439	0.613	0.442
Perf17	0.481	0.677	0.525	0.694	0.531
Perf18	0.460	0.729	0.560	0.743	0.565
Moderated Model					
Perf1	0.440	0.600	0.433	0.652	0.466
Perf2	0.551	0.566	0.388	0.581	0.392
Perf3	0.537	0.627	0.455	0.646	0.471
Perf4	0.515	0.622	0.445	0.670	0.478
Perf5	0.582	0.517	0.377	0.537	0.394
Perf6	0.482	0.695	0.522	0.726	0.552
Perf7	0.462	0.601	0.467	0.636	0.482
Perf8	0.347	0.805	0.618	0.886	0.685
Perf9	0.430	0.707	0.535	0.711	0.546
Perf10	0.348	0.787	0.595	0.800	0.612
Perf11	0.340	0.775	0.566	0.760	0.615
Perf12	0.362	0.687	0.520	0.713	0.533
Perf13	0.595	0.548	0.410	0.557	0.414
Perf14	0.530	0.503	0.380	0.581	0.433
Perf15	0.549	0.559	0.407	0.575	0.437
Perf16	0.426	0.610	0.435	0.612	0.449
Perf17	0.472	0.683	0.529	0.718	0.541
Perf18	0.460	0.729	0.558	0.742	0.562