

The Influence of e-BMD Implementation and Employee Competence on Regional Asset Management: Evidence from the Kendari City Government

Yulia Firdania¹, Hasbudin¹, Tuti Dharmawati¹

¹ Halu Oleo University, Indonesia

Received: 12/05/2026

Revised: 30/08/2026

Accepted: 04/10/2026

Abstract

Regional asset management is a fundamental component of public sector governance that supports accountability, transparency, and efficient public service delivery. The increasing adoption of digital asset management systems requires not only reliable information technology but also competent public employees to ensure effective asset administration. This study examines the influence of e-BMD implementation and employee competence on regional asset management in the Kendari City Government. A quantitative explanatory survey design was employed involving 85 employees from 17 Regional Government Organizations (Organisasi Perangkat Daerah/OPD) selected through purposive sampling. Data were collected using structured questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results show that the model explains 33.3% of the variance in regional asset management ($R^2 = 0.333$). e-BMD implementation has a positive and significant effect on regional asset management ($\beta = 0.320$; $p < 0.001$), while employee competence also has a positive and significant effect ($\beta = 0.362$; $p < 0.001$). The effect size analysis indicates that e-BMD implementation has an $f^2 = 0.129$, while employee competence has a larger $f^2 = 0.166$, indicating that employee competence provides a more dominant contribution to regional asset management. These findings highlight that Employee competence shows a relatively stronger contribution than e-BMD implementation within the estimated structural model. Strengthening digital asset management should therefore be accompanied by continuous employee competency development to improve effective, accountable, and sustainable regional asset management.

Keywords

Implementation of e-BMD; Employee Competence; Regional Asset Management; Local Government; PLS-SEM

Corresponding Author:

Yulia Firdania

Halu Oleo University, Indonesia; fiolineelden@gmail.com

1. INTRODUCTION

Regional asset management is an important component of public sector governance because government assets support public services, regional development, and financial accountability (Mardiasmo, 2021; Sumaryana et al., 2024). Effective management requires assets to be recorded, safeguarded, utilized, and reported in an orderly manner, while weaknesses may produce inaccurate



© 2026 by the authors. This is an open access publication under the terms and conditions of the Creative Commons Attribution 4.0 International License (CC BY NC) license (<https://creativecommons.org/licenses/by-nc/4.0/>).

inventories, underutilization, and audit findings (Badan Pemeriksa Keuangan Republik Indonesia Perwakilan Provinsi Sulawesi Tenggara, 2025; Fadilah et al., 2021; Halim & Kusufi, 2018).

Digital transformation has encouraged governments to modernize administrative processes through integrated information systems (Nations, 2022; OECD, 2020). In Indonesia, this transformation includes the Regional Property Management Information System (e-BMD), which is integrated with the Regional Government Information System (SIPD). The system is intended to support more integrated asset recording, administration, reporting, and monitoring (Kementerian Dalam Negeri Republik Indonesia, 2024; Mergel et al., 2019). Digital transformation, however, is not simply the adoption of technology; it also changes organizational processes, capabilities, and work practices (Vial, 2019).

The transition from SIMDA BMD to SIPD-integrated e-BMD therefore requires technological readiness as well as reliable data, organizational adaptation, and employee capability. Previous regional asset studies identify problems such as outdated inventories, fragmented governance, and the need for better coordination and data management (Fadilah et al., 2021; Sumaryana et al., 2024). These issues indicate that digitalization alone does not automatically resolve asset-management problems.

Kendari City provides a relevant setting for examining this transition. The local government has moved from SIMDA BMD toward e-BMD integrated with SIPD RI, changing how asset information is entered, validated, updated, and reconciled. A study at the Kendari City Agriculture Service found that e-BMD improved efficiency, accuracy, and transparency but also identified limitations in employee understanding and the need for further training (Nur et al., 2024). Similar concerns about operational standards and asset administration have been reported in other Indonesian local governments (Kartini et al., 2024).

This study integrates Agency Theory and Stewardship Theory to explain the relationship between digital systems, employee capability, and asset management. Agency Theory emphasizes monitoring, transparency, and accountability where information asymmetry may arise between principals and agents (Jensen & Meckling, 1976). In this context, e-BMD can function as a control mechanism because integrated digital records make asset information more accessible, traceable, and timely. Stewardship Theory provides a complementary explanation by viewing organizational members as stewards whose actions can support organizational and public objectives (Donaldson & Davis, 1991). Employee competence is therefore important because knowledge, technical skills, and professional attitudes enable employees to operate e-BMD, understand regulations, validate asset data, and perform asset administration responsibly (Spencer & Spencer, 1993).

The two perspectives suggest that technology and human capability are mutually dependent. A reliable information system can standardize procedures and improve traceability, but its benefits may be constrained when users lack the knowledge or skills to operate it. Conversely, competent employees

require reliable and timely information systems to perform asset-management tasks effectively. This socio-technical perspective is consistent with research emphasizing that digital transformation involves both technological and organizational change (Verhoef et al., 2021; Vial, 2019).

Previous studies have reported positive relationships between information-system quality, employee competence, and regional asset management (Ali & Fitriyani, 2021; Kurnia et al., 2024; Takas, 2021). Research in Kendari also indicates benefits from e-BMD implementation, while studies in other local governments highlight the importance of asset-data quality, internal control, and competent personnel (Fadilah et al., 2021; Muhlisoh et al., 2023). Nevertheless, empirical evidence examining e-BMD implementation and employee competence simultaneously during the transition from SIMDA BMD to SIPD-integrated e-BMD remains limited. The research gap therefore concerns not only the limited number of e-BMD studies but also the need to understand how technological infrastructure and human capability jointly contribute to regional asset management during digital-system transition.

Accordingly, this study examines the influence of e-BMD implementation and employee competence on regional asset management in the Kendari City Government. The study asks whether e-BMD implementation and employee competence significantly influence regional asset management and whether one of these predictors makes a relatively stronger contribution. By integrating Agency Theory and Stewardship Theory, the study links digital control mechanisms with the human capability required to use them effectively.

The study contributes empirical evidence from a local-government setting undergoing digital asset-management transition. Practically, the findings may assist local governments in designing policies that combine system improvement with employee training, technical assistance, data validation, and competency development. This approach is consistent with evidence that digitalization changes the skills required of public officials and increases the importance of organizational capability (Herwanto et al., 2024; Lindgren et al., 2019).

2. METHODS

This study employed a quantitative explanatory design to examine the influence of e-BMD implementation and employee competence on regional asset management in the Kendari City Government (Creswell & Creswell, 2018; Sekaran & Bougie, 2025). The population comprised all 31 OPDs using e-BMD. Purposive sampling was used because respondents had to have direct knowledge and involvement in regional asset-management activities.

The inclusion criteria were that the OPD implemented e-BMD, officially granted research permission, and was willing to participate and provide respondents involved in regional asset management. Seventeen of the 31 OPDs met these access and participation criteria; the other 14 did not

grant permission or were unwilling to participate. Thus, 17 OPDs were included in the study.

Five respondents were purposively selected from each participating OPD based on their direct responsibilities in asset management. Respondents included Kasubag, e-BMD data-input personnel, Pengurus Barang, Pembantu Pengurus Barang, and Kuasa Pengguna Barang. These positions are directly involved in recording, administration, utilization, supervision, and management of BMD, producing a final sample of 85 respondents (17 OPDs $\times$ 5).

Sample adequacy was assessed using an a priori statistical power approach. With two predictors, a two-tailed significance level of 0.05, statistical power of 0.80, and a medium effect size of $f^2 = 0.15$, the minimum required sample was 68 observations. The 85 observations therefore exceeded the minimum requirement, providing additional justification beyond the ten-times rule (Hair et al., 2022).

The questionnaire items were adapted from established concepts and prior studies and adjusted to the regional asset-management context. No separate pilot study was conducted. Instead, the measurement model was evaluated using the main-survey data through indicator reliability, convergent validity, discriminant validity, and construct reliability (Hair et al., 2022).

Primary data were collected through a structured questionnaire using a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) (Likert, 1932; Sekaran & Bougie, 2025). e-BMD implementation was measured through system quality, information quality, and service quality (DeLone & McLean, 2003; Laudon & Laudon, 2020). Employee competence was measured through knowledge, skills, and work attitude, while regional asset management covered the principal BMD management activities specified in applicable regulations (Kementerian Dalam Negeri Republik Indonesia, 2024; Spencer & Spencer, 1993).

The e-BMD implementation construct was measured using indicators reflecting system quality, information quality, and service quality (DeLone & McLean, 2003; Laudon & Laudon, 2020). These indicators reflect the quality of the electronic asset management system, the quality and reliability of information generated by the system, and the quality of support or services associated with system use. Employee competence was assessed through indicators representing employees' knowledge, technical skills, and professional attitudes in managing regional assets (Spencer & Spencer, 1993). Regional asset management was measured based on indicators related to planning and budgeting, procurement, use, utilization, security and maintenance, assessment, transfer, destruction, disposal, administration, and guidance, supervision, and control in accordance with applicable government regulations (Kementerian Dalam Negeri Republik Indonesia, 2024).

Each variable is described in an operational definition and research indicators. These indicators are used as the basis for developing statement items in the research questionnaire. The operational definitions and variable indicators can be seen in the following table.

Table 1. Operational Definitions and Variable Indicators

Variables	Operational Definition	Indicator
e-BMD Implementation (X1)	The implementation of e-BMD includes the level of utilization of the electronic system for Regional Property to support the process of administering and managing regional assets effectively, accurately, and in an integrated manner within the OPD environment.	- System Quality - Information Quality - Service Quality
Employee Competence (X2)	Employee Competence includes the capabilities of regional asset management personnel, including knowledge, skills and work attitudes in implementing regional asset management in accordance with applicable provisions.	- Knowledge - Skills - Attitude/work ethic
Regional Asset Management (Y)	Management of regional assets in the Kendari city government which includes the level of success of OPD in managing regional assets in an orderly, optimal manner, and in accordance with organizational objectives and statutory provisions.	- Requirements Planning and Budgeting - Procurement - Use - Utilization - Security and Maintenance - Assessment - Transfer - Destruction - Disposal - Administration - Guidance, Supervision, and Control.

Source: Processed data, 2026

Data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS 4 (Hair et al., 2022). The measurement model was assessed using outer loadings, Composite Reliability (CR), Average Variance Extracted (AVE), HTMT, and the Fornell–Larcker criterion (Fornell & Larcker, 1981; Henseler et al., 2016). The structural model was assessed using collinearity, R^2 , f^2 , and bootstrapping for hypothesis testing. A relationship was considered statistically significant when $p < 0.05$ and $t > 1.96$ (Hair et al., 2022).

3. FINDINGS AND DISCUSSION

3.1. Respondent Characteristics

Table 2. Respondent Characteristics

Profile Category	Description	Frequency	Percentage (%)
Gender	Male	45	52,94%
	Female	40	47,06%
	Total	85	100%
Age	20-30 years	23	27,06%
	31-40 years	26	30,59%
	> 40 years	36	42,35%
	Total	85	100%
Highest Level of Education	High School / Vocational High School	11	12,94%
	Bachelor's Degree	50	58,82%
	Master's Degree	24	28,24%
	Total	85	100%
Length of Employment	1-5 years	17	20%
	5-10 years	31	36,47%
	10-15 years	15	17,65%
	> 15 years	22	25,88%
	Total	85	100%

Source: Excel Data Output, 2026

The study involved 85 respondents from 17 Regional Government Organizations (Organisasi Perangkat Daerah/OPD) of the Kendari City Government. The respondents were employees directly involved in regional asset management and the use of the e-BMD system. Most respondents were aged over 40 years (42.35%), followed by those aged 31–40 years (30.59%) and 20–30 years (27.06%). In terms of education, the majority held a bachelor's degree (58.82%), while 28.24% held a master's degree and 12.94% had a high school or vocational high school education. Regarding length of employment, 80% of respondents had worked for more than five years, indicating that most respondents had relatively substantial work experience in their respective organizations. These characteristics provide relevant contextual support because the respondents were directly involved in asset management activities and therefore had practical knowledge of the implementation of e-BMD and regional asset management.

3.2. Statistical Test Analysis Results

SmartPLS 4 was used to estimate the variance-based PLS-SEM model. The analysis comprised measurement-model assessment and structural-model assessment. The measurement model examined indicator reliability, convergent validity, discriminant validity, and construct reliability; the structural model examined explanatory power, effect size, and the significance of path coefficients.

3.2.1 Outer Model

Convergent validity was initially assessed using outer loadings, with 0.70 generally regarded as desirable. Following the reviewer's recommendation, low-loading indicators were removed sequentially rather than simultaneously. Four indicators were removed after evaluating their loading and substantive contribution: one from employee competence, two from regional asset management, and one from e-BMD implementation. The model was rerun after each deletion to obtain a more parsimonious specification while preserving construct coverage.

a. Convergent Validity

Convergent validity was initially evaluated using outer loading values. An outer loading of 0.70 or higher is generally considered desirable. However, indicators with loadings between 0.40 and 0.70 may be retained when their removal does not provide sufficient improvement and when the indicators remain substantively important to the construct.

In the present study, the initial measurement model contained several indicators with loadings below 0.70, ranging from approximately 0.515 to 0.698. In accordance with the reviewer's recommendation, the indicators were not eliminated simultaneously. Instead, the elimination process was conducted gradually by evaluating the lowest-loading indicators and rerunning the PLS algorithm after each elimination. Four indicators were ultimately removed during this process: one indicator from employee competence, two indicators from regional asset management, and one indicator from e-BMD implementation. The sequential procedure was intended to improve model efficiency while avoiding excessive deletion of indicators that could reduce the substantive coverage of the constructs.

After the sequential elimination process, several retained indicators still had outer loadings below 0.70. However, these indicators were not automatically removed because the decision to retain or eliminate an indicator in PLS-SEM should consider the overall measurement model and the conceptual relevance of the indicator rather than applying the 0.70 threshold mechanically. The latest measurement model therefore represents a balance between statistical improvement and preservation of the substantive content of e-BMD implementation, employee competence, and regional asset management.

Table 3. Outer Loadings (Measurement Model)

Instrument	Implementation of e-BMD (X1)	Employee Competence (X2)	Regional Asset Management (Y)	Information
X1.1	0,771			Valid
X1.2	0,725			Valid
X1.3	0,770			Valid
X1.4	0,724			Valid
X1.5	0,732			Valid
X1.6	0,821			Valid
X1.7	0,735			Valid
X1.8	0,780			Valid

X1.9	0,766			Valid
X1.10	0,780			Valid
X1.11	0,726			Valid
X2.1		0,782		Valid
X2.2		0,777		Valid
X2.3		0,752		Valid
X2.4		0,791		Valid
X2.5		0,859		Valid
X2.6		0,868		Valid
X2.7		0,769		Valid
X2.8		0,833		Valid
X2.9		0,838		Valid
X2.10		0,851		Valid
X2.11		0,852		Valid
X2.12		0,836		Valid
Y1			0,673	Valid
Y2			0,686	Valid
Y3			0,875	Valid
Y4			0,732	Valid
Y5			0,856	Valid
Y6			0,828	Valid
Y7			0,770	Valid
Y8			0,724	Valid
Y9			0,789	Valid
Y10			0,838	Valid
Y11			0,777	Valid
Y12			0,831	Valid
Y13			0,666	Valid
Y14			0,668	Valid
Y15			0,848	Valid
Y16			0,900	Valid
Y17			0,897	Valid
Y18			0,826	Valid
Y19			0,874	Valid
Y20			0,698	Valid

Source: Results processed by SmartPLS, 2026

In this phase, all indicators for Implementation of e-BMD, Employee Competence, and Regional Asset Management showed a Loading Factor value $> 0,50$. Four indicators with relatively low outer loadings were sequentially eliminated after evaluating their contribution to indicator reliability and the substantive coverage of each construct. The PLS algorithm was rerun after each elimination to obtain a more parsimonious measurement model while preserving the conceptual coverage of the constructs. Thus, these indicators were declared valid and supported the construct validity of the measurement model.

b. Average Variance Extracted (AVE)

A variable is declared valid if its AVE value is greater than 0.50, which indicates that the construct explains more than 50% of the variance in its indicators, thus fulfilling the requirements for convergent validity.

Table 4. AVE Results from Convergent Validity Test

Variables	Average Variance Extracted (AVE)	Information
Regional Asset Management	0,663	Valid
Implementation of e-BMD	0,647	Valid
Employee Competence	0,764	Valid

Source: Results processed by SmartPLS, 2026

Based on the data testing results above, all variables in this study have an AVE (Average Variance Extracted) value above 0,50. Thus meeting the requirements for convergent validity. The “Employee Competence” variable shows the highest AVE value of 0.764, which indicates an excellent level of internal consistency. Meanwhile, the “Implementation of e-BMD” variable obtained the lowest AVE value of 0.647, but this value is still in the acceptable category. Thus, overall, the model used in this study meets the criteria for convergent validity.

c. Discriminant Validity: HTMT

To complement the cross-loading and Fornell–Larcker assessments reported in the previous version of the manuscript, discriminant validity was further evaluated using the Heterotrait-Monotrait Ratio (HTMT) (Henseler et al., 2016). The HTMT results are presented in Table 5.

Table 5. Heterotrait-Monotrait Ratio (HTMT)

Construct	Implementation of e-BMD (X1)	Employee Competence (X2)	Regional Asset Management (Y)
Implementation of e-BMD (X1)	-	0.382	0.385
Employee Competence (X2)	0.382	-	0.451
Regional Asset Management (Y)	0.385	0.451	-

Source: Results processed by SmartPLS, 2026

Based on the Heterotrait-Monotrait Ratio (HTMT) test results, all HTMT values between constructs fell below the 0.85 and 0.90 thresholds. The HTMT values were 0.382 between e-BMD implementation and employee competence, 0.385 between e-BMD implementation and regional asset management, and 0.451 between employee competence and regional asset management. These results indicate that all constructs possess adequate discriminant validity, meaning the constructs of e-BMD implementation, employee competence, and regional asset management can be empirically distinguished. The HTMT results also reinforce the evidence for discriminant validity and complement the Fornell–Larcker criterion.

Table 6. Fornell-Larcker Criterion

Variables	Employee Competence	Implementation of e-BMD	Regional Asset Management
Employee Competence	0,764		
Implementation of e-BMD	0,396	0,647	
Regional Asset Management	0,483	0,457	0,663

Source: Results processed by SmartPLS, 2026

Based on Table 6 of the Fornell-Larcker Criterion, it is known that the square root of the AVE value for each construct is greater than the correlation between the other constructs. Thus, it can be concluded that all constructs have met the discriminant validity criteria based on the Fornell-Larcker Criterion method.

d. Construct Reliability

Construct reliability is a test of the reliability of a variable, determining whether the indicators of a variable are reliable or trustworthy. The standard measurement that must be achieved in construct reliability is ≥ 0.70 .

Table 7. Composite Reliability Test Results

Variables	Composite Reliability	Information
Regional Asset Management	0,938	Reliable
Implementation of e-BMD	0,891	Reliable
Employee Competence	0,951	Reliable

Source: Results processed by SmartPLS, 2026

The results of the research data analysis showed a composite reliability above 0.80, indicating a very good level of reliability. This confirms that the measurement model used has very strong reliability and is reliable for further analysis.

3.2.2 Inner Model

The inner model is a part of hypothesis testing that is used to test whether the independent variable has a substantive influence on the dependent variable. The inner model is assessed using several indicators, such as the R^2 value (coefficient of determination), the f^2 value (effect size), and hypothesis testing in SmartPLS.

a. R-Square (R^2)

R-Square is a measure of the proportion of variation in the value of an influenced variable that can be explained by the influencing variable. R^2 values range from 0 to 1, with higher values indicating stronger predictive ability of the model.

Table 8. R-Square Test Results

Variables	R-Square	Information
Regional Asset Management	0,333	Moderate

Source: Results processed by SmartPLS, 2026

The R^2 value in this study is considered moderate. The model produced an R^2 value of 0.333. This indicates that e-BMD implementation and employee competence jointly explain 33.3% of the variance in regional asset management, while the remaining 66.7% is not explained by the variables included in the present model. The R^2 value therefore indicates a moderate explanatory capacity of the model, but it also reveals that regional asset management is influenced by a broader set of factors than those examined in this study. The unexplained 66.7% should not be interpreted as an error in the model or as evidence that e-BMD and employee competence are unimportant. Rather, it indicates that regional asset management is a multidimensional organizational process in which technological, human, managerial, infrastructural, and institutional factors may operate simultaneously.

One possible factor that may contribute to the unexplained variance is leadership commitment. Leadership commitment may influence the extent to which organizational leaders provide direction, supervision, coordination, and support for asset management activities. In the context of digital asset management, leadership support may also determine the continuity of system utilization and the follow-up of technical and administrative problems. However, leadership commitment was not included as a predictor in the current journal model; therefore, its contribution to the 66.7% unexplained variance cannot be empirically established from the present analysis.

Another possible factor is the availability and quality of technological infrastructure, including network connectivity, server capacity, and system stability. The descriptive findings in the study indicate that system stability remains an area requiring improvement. This provides contextual support for considering technological infrastructure as a possible factor affecting the effectiveness of e-BMD implementation. Nevertheless, because infrastructure quality was not measured as a separate construct, its effect should be regarded only as a possible explanation rather than an empirical finding of this study. A further possible factor is incentives or allowances for asset-management personnel. Asset management requires sustained administrative attention, accuracy, responsibility, and compliance with regulations. Organizational incentives may potentially influence employees' motivation to perform these responsibilities consistently. However, this factor was not tested in the present model and therefore cannot be claimed as a determinant based on the current empirical results.

Consequently, the R^2 value of 0.333 provides an important implication for future research. Studies of regional asset management could develop a more comprehensive model by incorporating additional variables such as leadership commitment, internal control, asset-data quality, technological infrastructure, management support, organizational culture, incentives, and other organizational factors. Such an expanded model may provide a more comprehensive explanation of the determinants of regional asset management.

b. F-Square

F-Square is a measure used to assess the relative impact of an influencing variable on the influenced variable. A value less than 0.02 indicates a very small effect, between 0.02 and 0.15 indicates a moderate effect, and a value above 0.35 indicates a large effect.

Table 9. F-Square Test Results

Variables	Regional Asset Management	Implementation of e-BMD	Employee Competence
Regional Asset Management			
Implementation of e-BMD	0,129		
Employee Competence	0,166		

Source: Results processed by SmartPLS, 2026

The data analysis above shows that Employee Competence has the most dominant influence on Regional Asset Management f^2 of 0.166, which indicates a moderate influence according to Cohen's criteria. Meanwhile, implementation of e-BMD also shows a moderate influence with an f^2 value of 0.129, which is included in the moderate influence category because its value is between 0.02 and 0.15. Overall, these findings indicate that Employee Competence is the strongest predictor factor in explaining Regional Asset Management followed by implementation of e-BMD with a moderate influence in this research model.

c. Direct Effect Analysis

This study conducted a direct effect analysis which is useful for testing the hypothesis of the direct influence of a variable that influences the variable that is influenced. The relationship between variables is considered statistically significant if the T statistic value > 1.96 and the P value < 0.05 .

Table 10. Path Coefficients on Regional Asset Management

Variables	Original Sample	T-Statistic	P-Value
Implementation of e-BMD	0,320	3,547	0,000
Employee Competence	0,362	4,553	0,000

Source: Results processed by SmartPLS, 2026

Based on the analysis results, all of the variables (Implementation of e-BMD and Employee Competence) have a positive and significant influence on Regional Asset Management. Thus, it can be concluded that hypothesis 1 and hypothesis 2 are accepted.

3.3. Discussion

3.3.1 The Impact of e-BMD Implementation on Regional Asset Management

The results demonstrate that e-BMD implementation has a positive and significant effect on regional asset management, with a path coefficient of 0.320, a t-statistic of 3.547, and a p-value below 0.001. The finding indicates that better implementation of e-BMD is associated with better regional asset management in the Kendari City Government.

The finding is particularly relevant to the transition from SIMDA BMD to e-BMD integrated with SIPD RI. Respondents assessed the information generated by e-BMD relatively positively, while system stability and errors remained areas requiring attention. Thus, the contribution of e-BMD depends not only on application availability but also on reliable infrastructure, data quality, and technical support. Digital transformation research similarly emphasizes that technology adoption involves organizational and process changes rather than technology alone (Mergel et al., 2019; Vial, 2019).

From the Stewardship perspective, e-BMD provides an organizational instrument that helps employees manage public resources transparently and accountably (Donaldson & Davis, 1991). From the Agency perspective, systematic digital records can reduce information asymmetry by improving the timeliness, traceability, and transparency of asset information (Jensen & Meckling, 1976).

The finding is consistent with Nur et al. (2024), who reported that e-BMD supported efficiency, accuracy, and transparency in the Kendari City Agriculture Service, and with Ali & Fitriyani (2021), who linked information-system quality with regional asset-management performance. It also complements (Sumaryana et al., 2024), who identified data quality, governance, coordination, and planning as continuing challenges in local-government asset management.

Although statistically significant, e-BMD has a lower f^2 value (0.129) than employee competence (0.166). This indicates that the digital system contributes to asset management, but its effect is relatively smaller within the estimated model. The finding suggests that technological investment needs to be accompanied by the capability to operate, interpret, validate, and use the system correctly.

3.3.2 The Influence of Employee Competence on Regional Asset Management

Employee competence has a positive and significant effect on regional asset management, as indicated by a path coefficient of 0.362, a t-statistic of 4.553, and a p-value below 0.001. The finding indicates that higher employee competence is associated with better regional asset management.

The competence construct covers knowledge, skills, and work attitudes. These capabilities are particularly important during the transition to e-BMD because employees must understand asset regulations while adapting their work practices to a new digital system. Research on digital public administration likewise emphasizes that digitalization changes the skills required of public officials and creates continuing needs for training and competency development (Herwanto et al., 2024; Lindgren et al., 2019).

Descriptively, employee competence was generally assessed positively. Compliance with rules and procedures received the highest assessment, while understanding of the functions and benefits of e-BMD received the relatively lowest assessment. This pattern suggests that employees generally

demonstrate procedural compliance, but their understanding of the strategic and functional use of the digital system can still be strengthened.

The result is consistent with Stewardship Theory because competent employees have the capability to translate organizational objectives and regulations into responsible asset-management practices (Donaldson & Davis, 1991). It is also relevant to Agency Theory because competent employees can produce more accurate and timely asset information, thereby supporting accountability and reducing information asymmetry (Jensen & Meckling, 1976).

The finding supports (Kurnia et al., 2024), who reported a positive contribution of human-resource competence to local-government fixed-asset management, and (Takas, 2021), who identified competence as an important factor in regional asset management. Evidence from Tomohon also indicates a significant relationship between civil-servant competence and regional asset-management effectiveness (Latuharhary et al., 2021).

3.3.3 Employee Competence as the More Dominant Predictor

An important contribution of this study is the comparison of the relative strength of the two significant predictors. Employee competence has a path coefficient of 0.362, which is higher than the coefficient of 0.320 for e-BMD implementation. The difference is also reflected in the effect-size values: employee competence has an f^2 of 0.166, whereas e-BMD implementation has an f^2 of 0.129.

The result highlights that the availability of a digital system does not by itself guarantee effective asset management. e-BMD provides the technological infrastructure for recording, processing, updating, and reporting, whereas employees provide the knowledge and skills required to translate those functions into accurate administrative practices. This is consistent with the socio-technical view of digital transformation, in which organizational capability and technology develop together (Verhoef et al., 2021; Vial, 2019).

The finding is particularly relevant to the Kendari transition from SIMDA BMD to e-BMD because employees must adapt to new workflows, validate migrated data, reconcile physical and electronic records, and interpret system-generated information. Evidence from e-BMD implementation in Kendari and other Indonesian local governments likewise points to the importance of training and human-resource capacity (Kartini et al., 2024; Nur et al., 2024).

The stronger relative contribution of competence also helps explain why the model's R^2 is moderate at 0.333. Digital asset management is a multidimensional process, and organizational capacity is one component that determines whether technology produces useful administrative outcomes. Consequently, digital investment should include continuous training, technical assistance, and data-validation capability rather than focusing exclusively on application deployment.

From Stewardship Theory, the result emphasizes that technology becomes effective when public employees have the capacity and responsibility to use it appropriately. From Agency Theory, competent employees can use digital systems to produce more reliable and timely information, supporting accountability and reducing information asymmetry.

Overall, the findings indicate that digitalization of regional asset management requires both technological capability and human capability. In the present empirical model, employee competence makes the relatively stronger contribution, while e-BMD implementation also has a significant positive relationship with asset management.

4. CONCLUSION

This study concludes that e-BMD implementation and employee competence both have positive and significant effects on regional asset management in the Kendari City Government. e-BMD supports more systematic and integrated asset administration, while employee competence makes a relatively stronger contribution through the knowledge, skills, and work attitudes required to operate the system and perform asset-management procedures effectively.

The findings imply that the Kendari City Government should strengthen both the technological and human dimensions of e-BMD implementation. Operationally, the government should establish a Service Level Agreement (SLA) for e-BMD technical disruptions by defining response times, escalation mechanisms, responsible units, and monitoring procedures for error resolution. Employee competency development should also be strengthened through regular technical training (Bimtek) based on practical cases, particularly data migration from SIMDA BMD to SIPD-integrated e-BMD, data validation, synchronization, reconciliation, and handling of system errors. In addition, clearer career development and functional-position arrangements for Pengurus Barang and other asset-management personnel are recommended to ensure continuity of expertise and accountability in regional asset management. These measures are expected to improve the sustainability and effectiveness of digital-based asset management.

Future research can extend the model by examining organizational and managerial conditions that may shape the effectiveness of e-BMD and employee competence. Digital Leadership and Organizational Culture could be tested as moderating variables, while longitudinal research could examine changes in system implementation, employee competence, and asset-management effectiveness during continuing digital transformation.

REFERENCES

- Ali, M., & Fitriyani, D. (2021). Pengaruh Kualitas Sistem Informasi Terhadap Kinerja Pengelolaan Aset Pemerintah Daerah. *Jurnal Sistem Informasi Publik*, 6(2), 113–125.
- Badan Pemeriksa Keuangan Republik Indonesia Perwakilan Provinsi Sulawesi Tenggara. (2025). *Laporan Hasil Pemeriksaan atas Laporan Keuangan Pemerintah Kota Kendari Tahun Anggaran 2024*. BPK RI.
- Creswell, W., & Creswell, D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.)*. Sage Publications.
- DeLone, H., & McLean, R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4), 9–30.
- Donaldson, L., & Davis, H. (1991). Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns. *Australian Journal of Management*, 16(1), 49–64.
- Fadilah, I., Muhammad, N., & Surya, T. (2021). Analisis Pengelolaan Aset Daerah Pada Pemerintah Daerah Kabupaten Bandung Barat. *Indonesian Accounting Research Journal*, 1(3), 446–456.
- Fornell, C., & Larcker, F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/https://doi.org/10.1177/002224378101800104>
- Hair, F., Hult, M., Ringle, M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM) (3rd ed.)*. Sage Publications.
- Halim, A., & Kusufi, S. (2018). *Akuntansi sektor publik: Akuntansi keuangan daerah (5th ed.)*. Salemba Empat.
- Henseler, J., Hubona, G., & Ray, A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management & Data Systems*, 116(1), 2–20. <https://doi.org/https://doi.org/10.1108/IMDS-09-2015-0382>
- Herwanto, S., Rohmansyah, H., Daga, K., & Roflebabin, G. (2024). Kompetensi Aparatur Sipil Negara di Era Digital: Sebuah Kerangka Konseptual. *Kebijakan: Jurnal Ilmu Administrasi*, 15(2). <https://doi.org/https://doi.org/10.23969/kebijakan.v15i02.6582>
- Jensen, C., & Meckling, H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4), 305–360.
- Kartini, K., Mediaty, M., Ermayanti, E., Naazla, M., Darman, P., & Tandigoa, Y. (2024). Assessing Regional Asset Management “Operational Standards” at the Regional Development Planning Office of West Sulawesi Province. *Jurnal Ilmiah Ilmu Administrasi Publik*, 14(1). <https://doi.org/https://doi.org/10.26858/jiap.v14i1.63730>
- Kementerian Dalam Negeri Republik Indonesia. (2024). *Peraturan Menteri Dalam Negeri Nomor 7 Tahun*

- 2024 tentang Perubahan atas Permendagri Nomor 19 Tahun 2016 tentang Pedoman Pengelolaan Barang Milik Daerah. Kemendagri.
- Kurnia, F., Zulkifli, & Desi, I. (2024). Faktor-faktor yang Mempengaruhi Optimalisasi Pengelolaan Aset Tetap di BPKAD Kabupaten Ogan Komering Ilir. *JEMSI (Jurnal Ekonomi, Manajemen, Dan Akuntansi)*, 10(5), 2973–2984.
- Latuharhary, T., Mantiri, S., & Sampe, S. (2021). Pengaruh kompetensi aparatur sipil negara terhadap efektivitas pengelolaan aset daerah (Studi di Badan Pengelolaan Keuangan dan Pendapatan Daerah Kota Tomohon). *POLITICO: Jurnal Ilmu Politik*, 10(1).
- Laudon, C., & Laudon, P. (2020). *Management Information Systems: Managing the Digital Firm* (16th ed.). Pearson Education.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 140, 1–55.
- Lindgren, I., Madsen, Ø, C., Hofmann, S., & Melin, U. (2019). Close encounters of the digital kind: A research agenda for the digitalization of public services. *Government Information Quarterly*, 36(3), 427–436. <https://doi.org/https://doi.org/10.1016/j.giq.2019.03.002>
- Mardiasmo. (2021). *Akuntansi Sektor Publik*. Andi.
- Mergel, I., Edelmann, N., & Haug, N. (2019). *Defining digital transformation: Results from expert interviews. Government Information Quarterly*. 36(4), 101–385. <https://doi.org/https://doi.org/10.1016/j.giq.2019.06.002>
- Muhlisoh, Z., Kurhayadi, K., & Sucipto, B. (2023). The Influence of Regional Asset Management and Internal Control Systems on the Quality of Financial Reporting in the Bandung City Education Department. *JASa: Jurnal Akuntansi, Audit Dan Sistem Informasi Akuntansi*, 7(3), 607–619. <https://doi.org/https://doi.org/10.36555/jasa.v7i3.2402>
- Nations, U. (2022). *United Nations e-government survey 2022: The future of digital government*. United Nations.
- Nur, J., Mattalitti, I., & Ahmad, G. (2024). Tata Kelola Aset Barang Milik Daerah Berbasis e-BMD pada Dinas Pertanian Kota Kendari. *Journal Publicuho*, 7(3), 1752–1766.
- OECD. (2020). The OECD digital government policy framework: Six dimensions of a digital government. *OECD Publishing*. <https://doi.org/https://doi.org/10.1787/f64fed2a-en>
- Sekaran, U., & Bougie, R. (2025). *Research Methods for Business: A Skill Building Approach* (9th edition) (Hoboken (ed.)). NJ: John Wiley & Sons.
- Spencer, M., & Spencer, M. (1993). *Competence at Work: Models for Superior Performance*. NY: John Wiley & Sons.
- Sumaryana, A., Komara, R., & Pancasilawan, R. (2024). Rethinking Local Government Asset Management in Indonesia: Governance, Planning, and Policy Evaluation. *Journal of Contemporary*

- Governance and Public Policy*, 5(2), 217–232. <https://doi.org/https://doi.org/10.46507/jcgpp.v5i2.643>
- Takas, Y. (2021). Pengaruh Kompetensi Aparatur Terhadap Efektivitas Inventarisasi Aset Daerah. *Jurnal Pemerintahan Daerah*, 9(1), 70–81.
- Verhoef, C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889–901. <https://doi.org/https://doi.org/10.1016/j.jbusres.2019.09.022>
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28(2), 118–144. <https://doi.org/https://doi.org/10.1016/j.jsis.2019.01.003>