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The Role of Management Information Systems and Digital Asset Management in Enhancing the Effectiveness of Regional Asset Control: Evidence from the Government of West Sulawesi Province, Indonesia

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Abstract. Digital transformation has become a strategic priority for improving governance and accountability in public sector organizations. In regional governments, the implementation of Management Information Systems (MIS) and Digital Asset Management (DAM) is expected to strengthen the effectiveness of regional asset control by improving information quality, administrative efficiency, and organizational transparency. However, empirical evidence regarding the combined influence of these digital capabilities on regional asset governance remains limited, particularly within Indonesian provincial governments. This study therefore investigates the effects of Management Information Systems and Digital Asset Management on the effectiveness of regional asset control in the Government of West Sulawesi Province. A quantitative research design was employed using a cross-sectional survey of 108 employees directly involved in regional asset management, including asset administrators, information system operators, and asset administration officials. Data were collected through structured questionnaires and analyzed using multiple linear regression with IBM SPSS Statistics. The findings reveal that both Management Information Systems and Digital Asset Management have positive and statistically significant effects on the effectiveness of regional asset control. Management Information Systems improve administrative efficiency, information quality, and decision-making capability, while Digital Asset Management enhances real-time monitoring, information integration, asset security, and reporting efficiency. Furthermore, the two variables jointly explain 59.2% of the variation in regional asset control effectiveness, highlighting the strategic importance of digital transformation in strengthening public asset governance. This study contributes to the literature by extending the application of the Resource-Based View and the Information Systems Success Model to regional government asset management. Practically, the findings provide evidence that integrated digital information systems and digital asset management practices can improve transparency, accountability, and operational efficiency, thereby supporting the implementation of good governance within regional governments.

Keywords: Management Information Systems, Digital Asset Management, Regional Asset Control, Digital Government, Public Asset Management, Local Government.

1. Introduction

Digital transformation has become one of the primary strategies for improving public sector governance worldwide. Advances in information and communication technology have encouraged governments to modernize administrative processes, improve service quality, and strengthen transparency and accountability in managing public resources. The adoption of digital government is no longer viewed merely as technological innovation but as an institutional transformation that enables public organizations to deliver more efficient, responsive, and evidence-based services [1], [2]. Within this context, regional asset management represents one of the strategic government functions requiring integrated digital systems because public assets constitute an important component of regional wealth and directly influence the effectiveness of public service delivery.

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Regional asset management plays a critical role in ensuring accountability, transparency, and efficiency in local government administration. Government assets must be properly planned, recorded, monitored, maintained, and reported to support organizational performance and sustainable public financial management. Effective asset management not only safeguards government property from misuse and loss but also provides reliable information for strategic planning and policy formulation [3]. Conversely, weak asset administration often results in inaccurate inventories, inefficient utilization, audit findings, and increased risks of financial losses.

Despite continuous improvements in public financial management, many local governments in developing countries continue to encounter significant challenges in managing public assets. Common problems include fragmented information systems, inconsistent asset databases, delayed inventory updates, limited interoperability among government agencies, and insufficient digital capabilities of public employees [4]. These challenges reduce data accuracy, hinder organizational coordination, and weaken managerial decision-making regarding government assets. Consequently, digital transformation has become increasingly important in establishing integrated asset information systems capable of supporting real-time monitoring, improving data quality, and strengthening institutional accountability.

The Government of West Sulawesi Province faces similar challenges in managing regional assets. Although regional asset administration has improved over recent years, several operational problems remain, including inconsistencies in asset records, delays in inventory updates, limited supervision of asset utilization, and inadequate integration of asset information among regional government agencies. In addition, manual recording practices are still partially implemented, increasing the likelihood of duplicate information, data loss, and reporting inaccuracies. These conditions limit the government's ability to exercise effective control over regional assets and reduce the quality of decision-making related to asset utilization and maintenance.

To address these issues, the provincial government has gradually implemented a digital-based Management Information System (MIS) through the Electronic Regional Asset Application (e-BMD). The system is expected to integrate asset planning, registration, inventory, monitoring, maintenance, and reporting into a unified digital platform. Previous studies have demonstrated that digital information systems improve operational efficiency, reporting accuracy, transparency, and accountability within public organizations [2], [5]. In the context of public asset management, integrated information systems facilitate real-time information exchange, minimize administrative errors, strengthen internal control mechanisms, and improve organizational performance.

Beyond information systems, the concept of Digital Asset Management (DAM) has emerged as an essential component of modern public sector governance. Digital Asset Management refers to the systematic use of digital technologies to organize, monitor, store, retrieve, and control organizational assets throughout their life cycle. The implementation of Digital Asset Management enables governments to synchronize asset information across organizational units, improve monitoring efficiency, accelerate reporting processes, and enhance transparency in public asset administration [6]. Furthermore, digital asset platforms provide decision makers with accurate and timely information that supports evidence-based policy formulation and more effective utilization of government resources.

Previous empirical studies consistently report positive relationships between information systems, digital technologies, and public asset management performance. Information system implementation has been found to improve administrative efficiency, accountability, and transparency in regional asset management, while internal control systems and regulatory compliance significantly influence asset governance effectiveness [7], [8]. Recent studies also suggest that digital asset management contributes to higher data quality, better coordination among government agencies, and reduced opportunities for asset misuse through integrated digital monitoring systems [9], [10].

However, despite the growing body of literature on digital government, several research gaps remain. First, previous studies have predominantly examined Management Information Systems and Digital Asset Management separately, whereas limited empirical evidence investigates their simultaneous influence on the effectiveness of regional asset control. Second, most existing studies focus on general e-government implementation or public financial management rather than specifically addressing regional asset governance. Third, empirical evidence from Indonesian provincial governments, particularly West Sulawesi Province, remains scarce despite the region's ongoing efforts to digitalize public asset administration. These limitations indicate the need for further investigation into how integrated digital systems contribute to improving regional asset control effectiveness in developing local government environments.

Accordingly, this study aims to examine the influence of Management Information Systems and Digital Asset Management on the effectiveness of regional asset control within the Government of West Sulawesi Province. The study contributes to the literature by integrating information systems and digital asset management perspectives within the context of public sector asset governance. Practically, the findings are

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expected to provide evidence-based recommendations for regional governments seeking to strengthen digital governance, improve asset accountability, enhance administrative efficiency, and support the implementation of good governance principles through more integrated and effective regional asset management systems.

1.1. Theoretical Foundation

This study is grounded in the Resource-Based View (RBV) and the Information Systems Success Model (ISSM). According to the Resource-Based View, organizational resources that are valuable, rare, difficult to imitate, and well organized contribute to superior organizational performance [11]. Within public organizations, digital technologies, management information systems, and organizational knowledge represent strategic resources that improve administrative capability and operational efficiency. Meanwhile, the Information Systems Success Model proposed by [12] explains that information quality, system quality, and service quality determine the effectiveness of information systems, which subsequently influence organizational performance and user satisfaction. Combining these two perspectives suggests that Management Information Systems and Digital Asset Management can strengthen organizational capability and improve the effectiveness of regional asset control through better information quality and more efficient decision-making.

1.2. Management Information Systems

Management Information Systems (MIS) refer to integrated information systems that collect, process, store, and distribute information to support planning, control, coordination, and decision-making within organizations [13]. Rather than serving merely as technological infrastructure, MIS functions as an organizational resource that enhances administrative efficiency and managerial effectiveness through the provision of accurate, timely, and relevant information. Within public administration, MIS has become an essential component of digital government initiatives. Governments increasingly rely on integrated information systems to improve transparency, accountability, and operational efficiency while reducing administrative complexity [14]. Information systems facilitate coordination among government agencies by integrating data into centralized databases, thereby enabling real-time information sharing and more consistent administrative procedures. In regional asset management, MIS supports the complete asset life cycle, including planning, procurement, registration, inventory, maintenance, utilization, and reporting. Integrated systems such as electronic Regional Asset Management (e-BMD) reduce manual data processing, minimize recording errors, improve inventory accuracy, and strengthen internal control mechanisms. Furthermore, centralized information systems enable decision makers to monitor asset conditions continuously and generate reliable information for strategic planning. Previous empirical studies consistently demonstrate the positive contribution of MIS to organizational performance. [15] reported that digital government information systems improve transparency and public sector efficiency. Likewise, [16] found that integrated information systems enhance organizational coordination and improve the quality of public sector governance through better data management and information sharing. These findings indicate that higher-quality management information systems are expected to improve the effectiveness of regional asset control. In this study, Management Information Systems are defined as integrated digital systems used by the Government of West Sulawesi Province to support planning, recording, inventory, monitoring, maintenance, and reporting of regional assets.

1.3. Digital Asset Management

Digital Asset Management (DAM) refers to the systematic use of digital technologies to acquire, organize, store, monitor, retrieve, and control organizational assets throughout their life cycle [6]. Unlike conventional asset administration, DAM integrates digital databases, cloud technologies, and real-time information systems to improve asset visibility, accessibility, and operational efficiency. The implementation of DAM has become increasingly important within public organizations due to the growing complexity of government asset portfolios. Digital technologies enable governments to synchronize asset information across organizational units, monitor asset conditions in real time, and support evidence-based decision-making. Consequently, DAM contributes not only to administrative efficiency but also to transparency, accountability, and effective public resource management. Several empirical studies support these arguments. [17] demonstrated that digital government initiatives significantly improve organizational transparency and accountability through integrated information management. Similarly, [18] emphasized that digital transformation enables organizations to improve operational efficiency by integrating organizational resources through digital technologies. Effective Digital Asset Management is commonly reflected through several dimensions, including digital asset documentation, information integration, accessibility of asset information, information security, real-time monitoring capability, and reporting efficiency. These dimensions collectively enhance organizational capability to monitor asset utilization, reduce administrative errors, and improve strategic decision-making. Accordingly,

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this study conceptualizes Digital Asset Management as the implementation of integrated digital technologies that facilitate the storage, monitoring, control, and reporting of regional government assets in West Sulawesi Province.

1.4. Effectiveness of Regional Asset Control

Regional asset control effectiveness refers to the extent to which regional governments successfully supervise, utilize, maintain, secure, and report public assets in accordance with applicable regulations while achieving organizational objectives. Effective asset control ensures accountability, transparency, administrative order, and optimal utilization of public assets. The effectiveness of regional asset control depends upon several managerial activities, including inventory management, monitoring asset utilization, periodic reporting, maintenance, security, and disposal of obsolete assets. Weak control systems often generate inaccurate inventories, delayed reporting, asset misuse, and financial inefficiencies. Digital technologies substantially improve regional asset control by enabling integrated monitoring, automated reporting, and real-time asset tracking. Information systems also strengthen internal control by providing complete audit trails and facilitating coordination among government agencies. Previous studies indicate that information systems, internal controls, and employee competency significantly influence public asset management effectiveness [19]. Therefore, effective regional asset control increasingly depends upon the successful implementation of digital governance practices supported by integrated information systems.

1.4. Relationship between Variables and Hypothesis Development

According to the Information Systems Success Model [12], high-quality information systems improve organizational performance by providing reliable information that supports managerial decision-making. In regional governments, integrated Management Information Systems improve data accuracy, administrative efficiency, and coordination among government agencies, thereby strengthening regional asset control. Empirical evidence consistently demonstrates that information systems positively influence public sector governance performance [20], [21]. Resource-Based View argues that digital technologies constitute valuable organizational resources capable of improving operational capability [11]. Digital Asset Management enables organizations to integrate asset information, monitor assets in real time, and improve administrative transparency. Consequently, organizations implementing effective Digital Asset Management are expected to achieve higher levels of regional asset control effectiveness. Previous studies report that digital asset management contributes positively to organizational efficiency, transparency, and public accountability [22], [23].

H1: Management Information Systems positively influence the effectiveness of regional asset control.
H2: Digital Asset Management positively influences the effectiveness of regional asset control.

The theoretical framework proposes that Management Information Systems and Digital Asset Management represent strategic organizational capabilities that improve the effectiveness of regional asset control. Management Information Systems provide reliable information for administrative decision-making, whereas Digital Asset Management strengthens monitoring, documentation, and coordination throughout the regional asset life cycle. Consequently, both variables are expected to contribute positively to regional asset control effectiveness (see Figure 1).

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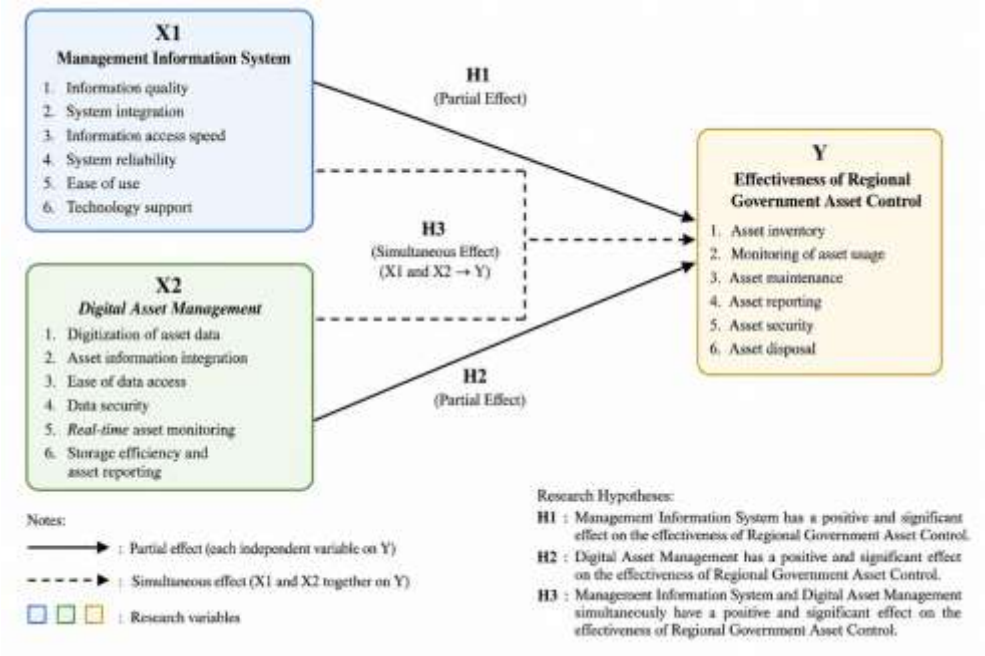

Figure 1. Conceptual Framework

2. Method

This study employed a quantitative research design using a cross-sectional survey to examine the influence of Management Information Systems (MIS) and Digital Asset Management (DAM) on the effectiveness of regional asset control in the Government of West Sulawesi Province. A quantitative approach was selected because it enables the objective examination of relationships among variables through statistical analysis and hypothesis testing [24]. The research was conducted in Regional Apparatus Organizations (Organisasi Perangkat Daerah/OPD) within the Government of West Sulawesi Province that have implemented the Electronic Regional Asset Management System (e-BMD). The unit of analysis consisted of employees directly involved in regional asset administration and management.

The target population comprised 148 employees responsible for regional asset management, including asset administrators, asset information system operators, asset administration staff, and officials responsible for regional asset administration. Considering the relatively small and well-defined population, a sample of 108 respondents was selected to represent the study population. This sample size exceeds the minimum recommendation for multiple regression analysis and is considered adequate for obtaining reliable statistical estimates [25]. Questionnaires were distributed directly to eligible respondents, and only fully completed questionnaires were included in the final analysis.

This study utilized both primary and secondary data. Primary data were collected through a structured questionnaire distributed to employees responsible for regional asset management. Secondary data were obtained from government regulations, regional asset reports, official documents, and previous scholarly publications related to public asset management and digital government. Responses were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Likert scale is widely used in organizational and information systems research because it effectively measures respondents' perceptions and attitudes toward research constructs [25].

Three research variables were examined in this study. The independent variables consisted of: a) Management Information Systems (MIS), measured through indicators of information quality, data integration, ease of system use, and information accessibility. b) Digital Asset Management (DAM), measured through digital asset documentation, information integration, data security, real-time asset monitoring, and reporting efficiency. The dependent variable was: a) Effectiveness of Regional Asset Control, measured through asset inventory, monitoring of asset utilization, asset maintenance, asset reporting, asset security, and disposal of obsolete assets. The measurement indicators were adapted from previous studies on information systems, digital government, and public asset management and were modified to suit the context of regional government organizations in Indonesia.

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Before hypothesis testing, the measurement instrument was evaluated to ensure its validity and reliability. Construct validity was assessed using item-total correlation analysis, while internal consistency reliability was evaluated using Cronbach's alpha coefficient. Following established recommendations, Cronbach's alpha values of 0.70 or above indicate acceptable measurement reliability [25].

The collected data were analyzed using IBM SPSS Statistics. Descriptive statistics were first employed to describe respondents' demographic characteristics and the distribution of research variables. Prior to regression analysis, several diagnostic tests were conducted to verify compliance with the assumptions of multiple linear regression, including: a) normality, b) multicollinearity, and c) heteroscedasticity. Hypotheses were subsequently tested using multiple linear regression analysis to examine both the individual and simultaneous effects of Management Information Systems and Digital Asset Management on the effectiveness of regional asset control. The significance of each regression coefficient was evaluated using t-tests, while the overall model significance was assessed using the F-test. The explanatory power of the model was measured using the coefficient of determination (R^2). Statistical significance was established at the 5% significance level ($p < 0.05$).

3. Result and Discussion

3.1. Measurement Model Assessment

Before testing the proposed hypotheses, the measurement instrument was evaluated to ensure its validity and reliability.

Validity Test

Construct validity was assessed using the Pearson product-moment correlation between each item and its corresponding construct score. Following the recommended criterion, an item is considered valid when the calculated correlation coefficient exceeds the critical value ($r = 0.189$ for $n = 108$, $\alpha = 0.05$).

Table 1. Results of the Validity Test

Variable	Item	*r* calculated	r table	Description
Management Information System (X1)	X1.1	0,712	0,189	Valid
	X1.2	0,768	0,189	Valid
	X1.3	0,734	0,189	Valid
	X1.4	0,801	0,189	Valid
Digital Asset Management (X2)	X2.1	0,745	0,189	Valid
	X2.2	0,782	0,189	Valid
	X2.3	0,756	0,189	Valid
	X2.4	0,809	0,189	Valid
Effectiveness of Regional Government Asset Control (Y)	Y1	0,721	0,189	Valid
	Y2	0,773	0,189	Valid
	Y3	0,748	0,189	Valid
	Y4	0,790	0,189	Valid

All measurement items produced correlation coefficients higher than the critical value, indicating that every questionnaire item was statistically valid and appropriate for subsequent analysis.

Reliability Test

Internal consistency reliability was evaluated using Cronbach's Alpha coefficient.

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Table 2. Reliability Test Results

Variable	Cronbach Alpha	Description
Management Information System (X1)	0.842	Reliable
Digital Asset Management (X2)	0.856	Reliable
BMD Management Effectiveness (Y)	0.874	Reliable

The Cronbach's Alpha values for all research constructs exceeded the recommended threshold of 0.70, indicating satisfactory internal consistency and demonstrating that the research instrument was reliable.

4.2. Regression Assumption Tests

Prior to estimating the regression model, several diagnostic tests were conducted to verify that the data satisfied the assumptions required for multiple linear regression.

Normality Test

The Kolmogorov–Smirnov test was employed to examine the normality of the regression residuals.

Table 3. Normality Test Results

Description	Value
Asymp. Sig. (2-tailed)	0.200

The obtained significance value of 0.200 ($p > 0.05$) indicates that the residuals follow a normal distribution. Therefore, the normality assumption was satisfied.

Multicollinearity Test

Multicollinearity was assessed using Tolerance and Variance Inflation Factor (VIF) values.

Table 4. Multicollinearity Test Results

Variable	Tolerance	VIF	Description
Management Information System (X1)	0,624	1,603	No multicollinearity occurs
Digital Asset Management (X2)	0,624	1,603	No multicollinearity occurs

All tolerance values exceeded 0.10, while all VIF values were below 10, indicating the absence of multicollinearity among the independent variables.

Heteroscedasticity Test

The Glejser test was conducted to determine whether heteroscedasticity existed within the regression model.

Table 5. Heteroscedasticity Test Results

Variable	Sig.	Description
Management Information System (X1)	0,417	No heteroscedasticity occurs
Digital Asset Management (X2)	0,382	No heteroscedasticity occurs

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Since the significance values for all independent variables exceeded 0.05, the regression model was free from heteroscedasticity. Overall, the diagnostic tests confirm that the dataset satisfies the assumptions necessary for multiple linear regression analysis.

4.3. Hypothesis Testing

Multiple Linear Regression Analysis

Multiple linear regression analysis was conducted to examine the influence of Management Information Systems and Digital Asset Management on the effectiveness of regional asset control.

Table 6. Multiple Regression Results

Variable	B	t value	Sig.
Constant	5.214	2.987	0.004
Management Information System (X1)	0.438	5.821	0.000
Digital Asset Management (X2)	0.512	6.437	0.000

The estimated regression equation is: Y = 5.214 + 0.438*X1* + 0.512X2
where:
Y = Effectiveness of Regional Asset Control
$\mathbf{X_1}$ = Management Information Systems
$\mathbf{X_2}$ = Digital Asset Management

The regression coefficients indicate that both independent variables positively contribute to regional asset control effectiveness. Specifically, a one-unit increase in Management Information Systems is associated with an increase of 0.438 units in regional asset control effectiveness, assuming other variables remain constant. Likewise, a one-unit increase in Digital Asset Management contributes 0.512 units to regional asset control effectiveness.

Partial Effect (t-test)

The t-test was conducted to examine the individual influence of each independent variable. The results reveal that Management Information Systems significantly affect regional asset control effectiveness ($\beta = 0.438$, $t = 5.821$, $p < 0.001$). Therefore, Hypothesis 1 is supported. Similarly, Digital Asset Management has a positive and statistically significant effect on regional asset control effectiveness ($\beta = 0.512$, $t = 6.437$, $p < 0.001$). Consequently, Hypothesis 2 is supported. Among the two predictors, Digital Asset Management exhibits the larger standardized effect, suggesting that digital asset practices contribute more strongly to effective regional asset control than information system implementation alone.

Simultaneous Effect (F-test)

The overall regression model was evaluated using the F-test.

Table 7. ANOVA Results

Model	F value	Sig.
Regression	78.624	0.000

The regression model is statistically significant ($p < 0.001$), indicating that Management Information Systems and Digital Asset Management jointly explain variations in regional asset control effectiveness.

4.4. Model Explanatory Power

The explanatory capability of the regression model was assessed using the coefficient of determination.

Table 8. Coefficient of Determination

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Model	R Square	Adjusted R Square
Regression	0.600	0.592

The model produced an Adjusted R^2 value of 0.592, indicating that 59.2% of the variation in regional asset control effectiveness is explained by Management Information Systems and Digital Asset Management. The remaining 40.8% is attributable to other organizational, managerial, and environmental factors not included in the present study. Overall, the Adjusted R^2 value suggests that the proposed model has moderate explanatory power, indicating that both digital information systems and digital asset management represent important determinants of effective regional asset governance.

4.5. Discussion

The Influence of Management Information Systems on the Effectiveness of Regional Asset Control

The findings demonstrate that Management Information Systems (MIS) have a positive and statistically significant effect on the effectiveness of regional asset control in the Government of West Sulawesi Province. The positive regression coefficient indicates that improvements in the quality of management information systems are associated with greater effectiveness in regional asset administration, monitoring, and control. This finding suggests that digital information systems have become an essential organizational capability for strengthening public sector governance. From a theoretical perspective, these findings support the Information Systems Success Model (ISSM) proposed by [12], which argues that information quality and system quality enhance organizational performance by improving managerial decision-making and operational efficiency. In the context of regional asset management, the implementation of e-BMD provides timely, accurate, and integrated information that enables government agencies to conduct asset registration, inventory, monitoring, and reporting more effectively than conventional manual systems. The availability of reliable information also strengthens internal control mechanisms by reducing recording errors, duplicate data, and delays in reporting.

The findings are also consistent with the Resource-Based View (RBV), which considers information systems as strategic organizational resources capable of generating operational advantages [11]. Within regional governments, integrated information systems improve coordination among Regional Apparatus Organizations (OPDs), facilitate information sharing, and support evidence-based decision-making regarding asset utilization and maintenance. Consequently, the implementation of MIS contributes not only to administrative efficiency but also to organizational accountability and transparency. These findings are consistent with previous studies. [2] concluded that digital government initiatives significantly improve administrative efficiency and public accountability, while [16] found that integrated information systems strengthen coordination and data governance within public organizations. The present study extends this literature by providing empirical evidence from regional asset management in an Indonesian provincial government, demonstrating that the benefits of digital information systems also apply to public asset governance. From a practical perspective, the findings suggest that local governments should continue investing in integrated information systems through infrastructure improvements, interoperability among government agencies, regular system maintenance, and continuous training for asset management personnel. Such initiatives are expected to further improve the effectiveness of regional asset control while supporting good governance practices.

The Influence of Digital Asset Management on the Effectiveness of Regional Asset Control

The empirical results indicate that Digital Asset Management (DAM) exerts a positive and significant influence on the effectiveness of regional asset control. Moreover, DAM exhibits a larger regression coefficient than MIS, suggesting that digital asset management contributes more strongly to effective regional asset governance in the Government of West Sulawesi Province. This finding supports the Resource-Based View, which emphasizes that digital technologies represent valuable organizational resources capable of enhancing operational capability and organizational performance [11]. Digital Asset Management enables government organizations to integrate asset information, monitor asset conditions in real time, improve data security, and simplify reporting processes. These capabilities strengthen organizational control over public assets while reducing administrative inefficiencies associated with conventional asset management practices.

The findings also align with contemporary digital transformation literature, which emphasizes that digitalization improves organizational effectiveness through better information accessibility, process integration, and real-time decision support [6]. In the context of regional governments, centralized digital asset platforms enable decision makers to access comprehensive information regarding asset location, utilization, maintenance

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status, and economic value, thereby supporting more effective asset planning and monitoring. These findings corroborate previous studies reporting that digital technologies improve transparency, accountability, and operational efficiency in public organizations [26], [27]. However, this study contributes additional empirical evidence by demonstrating that Digital Asset Management directly strengthens regional asset control effectiveness within the Indonesian public sector, particularly in provincial government organizations implementing digital asset administration systems. Practically, the results indicate that local governments should prioritize further development of digital asset management capabilities by enhancing cybersecurity, improving data integration across agencies, implementing real-time monitoring technologies, and strengthening digital competencies among asset management personnel. These improvements would enable governments to maximize the benefits of digital transformation in regional asset governance.

The Combined Influence of Management Information Systems and Digital Asset Management

The simultaneous analysis demonstrates that Management Information Systems and Digital Asset Management jointly explain a substantial proportion of the effectiveness of regional asset control. The model explains 59.2% of the variance in regional asset control effectiveness, indicating that digital governance capabilities represent major determinants of successful public asset management. This result suggests that neither information systems nor digital asset management alone are sufficient to optimize regional asset governance. Instead, both capabilities complement each other. Management Information Systems provide the organizational infrastructure required to process and distribute information efficiently, whereas Digital Asset Management ensures that asset information remains accurate, integrated, secure, and continuously updated throughout the asset life cycle. Together, these capabilities establish an integrated digital governance environment that supports transparency, accountability, and evidence-based managerial decision-making.

The findings reinforce the growing literature on digital government, which argues that successful digital transformation requires the simultaneous development of technological infrastructure, organizational capabilities, and information management practices [28], [29]. This study therefore contributes to public administration literature by demonstrating that the integration of information systems and digital asset management substantially improves regional asset governance in developing country contexts. From a policy perspective, these findings imply that regional governments should adopt comprehensive digital transformation strategies rather than implementing isolated technological solutions. Investments should focus not only on software acquisition but also on interoperability among government agencies, human resource development, institutional coordination, and continuous evaluation of digital asset governance practices. Such integrated initiatives are expected to strengthen public accountability, improve administrative efficiency, and reduce risks associated with asset misuse and inaccurate reporting.

4. Conclusion

This study examined the influence of Management Information Systems and Digital Asset Management on the effectiveness of regional asset control in the Government of West Sulawesi Province. The findings demonstrate that both Management Information Systems and Digital Asset Management positively and significantly influence regional asset control effectiveness. Management Information Systems improve the quality of information, facilitate administrative coordination, and support more effective decision-making regarding regional assets. Meanwhile, Digital Asset Management strengthens asset governance through integrated digital documentation, real-time monitoring, enhanced information security, and more efficient reporting processes. Furthermore, the combined influence of both variables explains 59.2% of the variation in regional asset control effectiveness, highlighting the strategic role of digital transformation in strengthening public sector governance. These findings support the Resource-Based View and the Information Systems Success Model by demonstrating that integrated digital capabilities enhance organizational performance through improved information quality, operational efficiency, and managerial decision-making. The study contributes theoretically by extending the application of information systems and digital transformation theories to regional government asset management. Practically, the findings provide evidence that regional governments should prioritize integrated digital governance strategies, including improvements in information system quality, digital asset management practices, technological infrastructure, and employee digital competencies to achieve more transparent, accountable, and efficient public asset governance.

Several limitations should be acknowledged. First, the study was conducted exclusively within the Government of West Sulawesi Province, limiting the generalizability of the findings to other regional governments with different organizational structures and digital maturity levels. Second, the proposed model included only two explanatory variables, while regional asset control may also be influenced by organizational

culture, employee competency, internal control systems, leadership, technological infrastructure, and regulatory support. Third, the study relied on self-reported questionnaire data, which may be subject to common method bias and respondents' subjective perceptions. Finally, the cross-sectional research design limits the ability to examine changes in digital transformation and asset governance over time.

Future studies are encouraged to extend this research by including regional governments from multiple provinces or municipalities to improve the generalizability of findings. Researchers may also incorporate additional organizational variables, such as digital leadership, employee competency, internal control effectiveness, organizational culture, technological readiness, cybersecurity capability, and institutional support. Moreover, future research could employ Structural Equation Modeling (SEM) to examine more complex causal relationships, including mediating and moderating effects among digital governance variables. Longitudinal and mixed-methods approaches are also recommended to provide a deeper understanding of how digital transformation evolves over time and how organizational, technological, and institutional factors interact in improving regional asset governance. Such studies would further enrich the literature on digital government and support the development of sustainable public sector digital transformation strategies.

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