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The Moderating Effect of Digitalization and Accounting Information Systems on the Determinants of Village Fund Accountability in Jambi Province

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Abstract: Village fund accountability remains a critical governance issue in Indonesia, particularly in ensuring transparent, lawful, and result-oriented financial management at the village level. This study aims to examine the effects of village apparatus competence, training quality, and internal control systems on village fund accountability, while assessing the moderating roles of digitalisation and accounting information systems (AIS). Using a quantitative explanatory design, data were collected through structured questionnaires from 1,008 village government officials across ten regencies in Jambi Province. The data were analysed using Structural Equation Modelling–Partial Least Squares (SEM–PLS). The results show that competence, training quality, and internal control systems have positive and significant effects on village fund accountability. Digitalisation has a positive direct effect and strengthens the relationship between competence and accountability, but does not moderate the effects of training quality and internal controls. In contrast, AIS significantly moderates the effects of training quality and internal controls, but not competence. The study contributes to public sector accountability and contingency theory by highlighting the strategic role of digital governance. Practically, the findings emphasise the need to strengthen digital infrastructure, optimise AIS implementation, and reinforce internal controls to improve village fund accountability.

Keywords: Village Fund Accountability, Competence, Training Quality, Internal Control System, Digitalisation, Accounting Information Systems AIS

INTRODUCTION

Village fund allocation represents one of the most significant fiscal decentralisation policies implemented by the Indonesian government to accelerate rural development and improve public welfare. Anchored in the 1945 Constitution and operationalised through Law No. 6 of 2014 on Villages and Law No. 17 of 2003 on State Finance, village funds are designed to strengthen local autonomy and enhance community-based development. Given the substantial scale of public resources involved, village fund management is legally required to comply with principles of accountability, transparency, efficiency, and compliance with prevailing regulations (Republic of Indonesia 2003, 2014).

In public sector governance, accountability extends beyond formal compliance with legal provisions. It reflects a broader relationship in which public officials are obliged to explain, justify, and bear responsibility for their actions and decisions to stakeholders (Bovens 2007; Steccolini 2019). Mardiasmo (2018) conceptualises public accountability as a multidimensional construct encompassing legal accountability, financial accountability, process accountability, and outcome accountability. Weaknesses in any of these dimensions may undermine the effectiveness of public spending and erode public trust.

Despite the existence of comprehensive regulatory frameworks, accountability failures in village fund management remain a persistent issue in Indonesia, particularly at the local level. This phenomenon is evident in several regions, including Jambi Province, where cases of fictitious expenditures, manipulated accountability reports, and ineffective internal controls continue to surface. Government Regulation No. 60 of 2008 mandates the implementation of a Government Internal Control System (SPIP) to ensure reliable financial reporting and safeguard public assets. However, empirical realities suggest that these mechanisms have not been fully internalised in village governance practices.

Recent empirical evidence illustrates the severity of the accountability problem in Jambi Province. Reports from the Provincial Prosecutor's Office document multiple corruption cases involving village funds, with common practices including fictitious projects, inflated budgets, and fabricated accountability reports. Audit findings from the regional audit authority further reveal instances of failed fund disbursement and stalled development projects due to administrative conflicts and weak governance capacity. These phenomena demonstrate a clear disconnect between regulatory standards and actual implementation, as summarised in Table 1.

Table 1. Phenomena of Village Fund Accountability Problems in Jambi Province

Dimension of Accountability	Regulatory Standard	Empirical Phenomena in Jambi Province	Type of Violation and Impact
Legal Accountability	Law No. 17/2003; Law No. 6/2014 require lawful and corruption-free fund management	Thirteen village fund corruption cases handled in 2022, including fictitious projects in Tebo and Muaro Jambi	Legal violations resulting in financial losses to the state
Financial and Honesty Accountability	Law No. 1/2004 requires valid and complete supporting documents	Fictitious accountability reports (SPJ) and budget mark-ups	Misrepresentation of financial information and loss of credibility
Process Accountability	PP No. 60/2008 and digital reporting systems (ALCC) require effective internal control	Digital systems failed to detect fictitious transactions in real time	Breakdown of internal control and procedural accountability
Outcome Accountability	Law No. 6/2014 emphasises welfare-oriented development outcomes	Failed fund disbursement and incomplete village projects	Public funds absorbed administratively without tangible social benefits

Source: Provincial Prosecutor's Office of Jambi (2023); Audit Board of Indonesia, Jambi Representative (2023).

The persistence of these problems indicates that traditional determinants of accountability, such as human resource competence, training programmes, and internal control systems, may be insufficient when operating in environments characterised by high corruption risk and weak governance culture. Prior studies report inconsistent findings regarding the effectiveness of these determinants. Some research confirms their positive influence on public sector accountability (Al-Hadeedi et al. 2020; Nguyen and Ha 2021), while others suggest that managerial capacity alone cannot prevent accountability failures in structurally constrained settings (Sargiacomo et al. 2021; Rahayu et al. 2023). This inconsistency highlights a critical research gap, particularly the lack of attention to contextual and contingent factors that may strengthen or weaken these relationships.

Digitalisation and accounting information systems (AIS) have emerged as potential mechanisms to address accountability challenges by reducing information asymmetry and enhancing transparency. Empirical evidence suggests that digital accounting systems can improve reporting accuracy and accountability (Ghani et al. 2019). Nevertheless, other studies caution that without substantive oversight and data validation, digital systems may merely legitimise procedurally correct but substantively flawed practices (Pina, Torres and Acerete 2019; Mistry et al. 2021). This raises an important question regarding whether digitalisation genuinely reinforces accountability or functions only as an administrative formality.

Accordingly, this study aims to examine the effects of village apparatus competence, training quality, and internal control systems on village fund accountability, while assessing the moderating roles of digitalisation and accounting information systems. By integrating public sector accountability theory (Mardiasmo 2018) with a contingency perspective, this research seeks to explain how technological mechanisms may condition the effectiveness of traditional accountability determinants.

The anticipated contributions of this study are twofold. Theoretically, it extends the accountability and contingency literature by positioning digitalisation and AIS as moderating variables in village financial governance. Practically, the findings are expected to provide evidence-based insights for policymakers and oversight institutions in strengthening digital governance frameworks, improving internal controls, and enhancing the integrity of village fund management, particularly in regions facing persistent accountability challenges such as Jambi Province.

METHOD

Research Design

This study employs a quantitative explanatory research design to investigate the determinants of village fund accountability and to assess the moderating roles of digitalisation and accounting information systems (AIS). A quantitative approach is appropriate given the study's objective to test hypothesised relationships among multiple latent constructs and to generalise findings across a large population of village governments. The explanatory design allows for the examination of causal relationships between independent variables, moderating variables, and the dependent variable, consistent with prior public sector accounting and governance studies.

The research is conducted within the context of village fund management in Jambi Province, Indonesia, a region characterised by extensive decentralisation of fiscal authority and persistent accountability challenges. The empirical setting provides a relevant context for examining how managerial, structural, and technological factors interact to influence accountability outcomes in village-level public financial management.

Population and Sample Selection

The population of this study comprises all village governments in Jambi Province, including village heads, heads of village consultative bodies (BPD), and village financial officers or treasurers. These actors were selected as the unit of analysis because they are directly involved in the planning, implementation, administration, and reporting of village fund utilisation, and therefore possess firsthand knowledge of accountability practices.

A purposive sampling technique was applied to ensure that respondents met specific inclusion criteria: (1) holding an official role related to village financial management, (2) having direct involvement in village fund administration, and (3) possessing a minimum level of experience sufficient to understand the village financial reporting process. This sampling approach is consistent with prior governance and public sector studies that require respondents with specialised institutional knowledge.

Data collection resulted in 1,008 valid responses obtained from villages across ten regencies in Jambi Province. The sample size exceeds the minimum requirements for Structural Equation Modelling and provides adequate statistical power for testing complex models with multiple constructs and moderating effects.

Data Collection Procedure

Primary data were collected using a self-administered structured questionnaire. Prior to full deployment, the questionnaire was reviewed by academic experts in public sector accounting and piloted with a small group of village officials to ensure clarity, relevance, and contextual appropriateness. Feedback from the pilot test was used to refine item wording and improve response accuracy.

The questionnaires were distributed directly to respondents through coordinated field visits and official channels to enhance response rates and minimise non-response bias. Respondents were informed of the academic purpose of the study and assured of confidentiality and anonymity to reduce social desirability bias and encourage honest responses.

Research Instrument and Measurement Scales

The research instrument consists of closed-ended statements measured on a five-point Likert scale, ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The use of a Likert scale is appropriate for capturing respondents’ perceptions and assessments of governance practices, accountability, and system usage.

Measurement items were adapted from established prior studies, with modifications to align them with the Indonesian village governance context. Adapting validated instruments enhances content validity while ensuring contextual relevance.

1. Village Apparatus Competence was measured using items reflecting technical knowledge, accounting skills, regulatory understanding, and problem-solving ability, adapted from Al-Hadeedi et al. (2020) and Nguyen and Ha (2021).
2. Training Quality captured respondents’ perceptions of the relevance, adequacy, frequency, and applicability of training programmes related to village financial management, drawing on Rahayu et al. (2023).
3. Internal Control Systems were measured based on the principles of the Government Internal Control System (SPIP), as stipulated in Government Regulation No. 60 of 2008, including control environment, risk assessment, control activities, information and communication, and monitoring.
4. Digitalisation was measured by assessing the extent of digital system adoption, system integration, real-time reporting capability, and perceived usefulness of digital platforms in village financial management (Ghani et al. 2019).
5. Accounting Information Systems (AIS) were measured by indicators capturing system reliability, data accuracy, traceability, integration, and support for decision-making (Mistry et al. 2021).
6. Village Fund Accountability, as the dependent variable, was operationalised as a multidimensional construct encompassing legal accountability, financial accountability, process accountability, and outcome accountability, following Mardiasmo (2018).
7. All constructs were modelled as reflective latent variables, consistent with theoretical assumptions that observed indicators reflect the underlying constructs.

Study Model Specification

The proposed study model positions village fund accountability as the dependent variable. Village apparatus competence, training quality, and internal control systems are specified as independent variables. Digitalisation and accounting information systems are incorporated as moderating variables to examine their contingent effects on the relationships between the independent variables and accountability.

The inclusion of moderating variables is grounded in contingency theory, which posits that the effectiveness of governance mechanisms depends on contextual conditions, including technological infrastructure. This model allows for a more nuanced understanding of accountability dynamics by recognising that managerial competence and control mechanisms may not operate uniformly across different digital environments.

Data Analysis Technique

Data analysis was conducted using Partial Least Squares–Structural Equation Modelling (PLS-SEM). PLS-SEM was selected for several reasons. First, it is suitable for analysing complex models with multiple constructs and interaction effects. Second, it does not require strict assumptions of multivariate normality, making it appropriate for survey data. Third, PLS-SEM is widely used in public sector accounting and governance research to assess both measurement and structural models simultaneously.

The analysis followed a two-stage procedure. The first stage involved evaluating the measurement model to ensure the reliability and validity of the constructs. The second stage focused on assessing the structural model to test the hypothesised relationships.

Measurement Model Assessment

The measurement model was evaluated by examining indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was assessed using outer loadings, with values exceeding commonly accepted thresholds indicating adequate reliability. Internal consistency reliability was evaluated using Composite Reliability (CR). Convergent validity was assessed through the Average Variance Extracted (AVE), ensuring that constructs explain a sufficient proportion of variance in their indicators. Discriminant validity was examined using the Fornell–Larcker criterion and cross-loading analysis to confirm construct distinctiveness.

Structural Model Assessment

The structural model assessment focused on evaluating the hypothesised relationships among constructs. Path coefficients were estimated to assess the direction and strength of relationships, while the coefficient of determination (R^2) was used to evaluate the explanatory power of the model. Effect sizes (f^2) were examined to assess the substantive impact of each predictor, and predictive relevance (Q^2) was assessed using blindfolding procedures.

Moderating effects of digitalisation and accounting information systems were tested using interaction terms within the PLS-SEM framework. This approach allows for assessing whether the strength of the relationships between independent variables and village fund accountability varies across different levels of digitalisation and AIS implementation.

Measurement and Structural Model Illustration

To illustrate the integrated measurement and structural relationships examined in this study, Figure 2 presents the complete PLS-SEM model, including latent constructs, measurement indicators, and hypothesised paths. The figure serves as a visual representation of the analytical framework employed in this research.

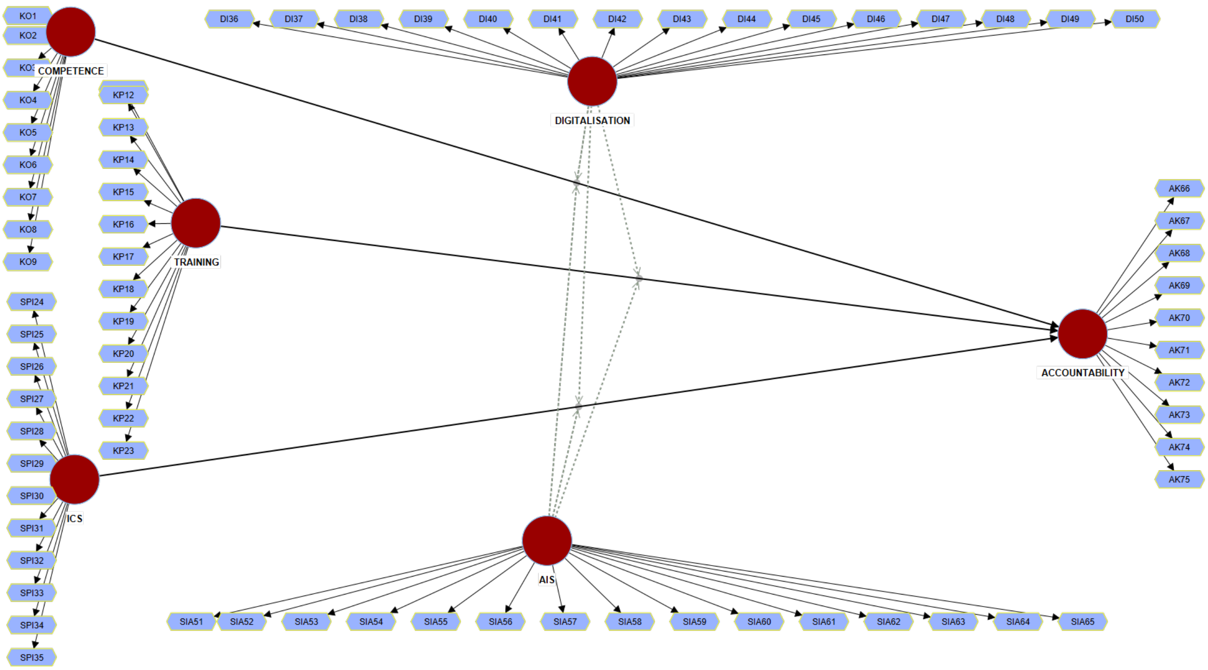

FIGURE 2. Measurement and structural model (PLS-SEM) showing the relationships among competence, training quality, internal control systems, digitalisation, accounting information systems, and village fund accountability.

RESULTS AND DISCUSSION

Result

Respondent Profile

A total of 381 respondents participated in this study, consisting of village heads, village treasurers, and members of the Village Consultative Body (BPD) from three regencies selected as the research locations. These respondents were chosen because of their direct involvement in village fund planning, implementation, financial administration, and oversight. The demographic characteristics of the respondents provide important contextual information regarding the institutional and human resource conditions under which village fund accountability is implemented.

Table 2. Respondent Profile

No	Respondent Profile	Frequency	Percentage (%)
1	**Gender**		
	Male	285	74.8
	Female	96	25.2
	Amount	**381**	**100**
2	**Educational Level**		
	Primary–Junior Secondary (SD–SMP)	5	1.31
	Senior Secondary (SMA–SMK)	205	53.80
	Diploma (D1–D3)	39	10.24
	Bachelor (D4/S1)	122	32.02
	Postgraduate (S2–S3)	10	2.62
	Amount	**381**	**100**
3	**Age Group (Years)**		
	25–32	88	23.10
	33–39	72	18.90
	40–46	102	26.77
	47–53	81	21.26
	54–60	38	9.97
	Amount	**381**	**100**

Descriptive Statistics of Research Variables

To provide an initial overview of the study variables, descriptive statistics were calculated for each latent construct.

Table 3. Descriptive Statistics of Research Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Village Apparatus Competence	3.87	0.56	2.40	5.00
Training Quality	3.74	0.59	2.20	5.00
Internal Control Systems	3.69	0.62	2.10	5.00
Digitalisation	3.65	0.61	2.00	5.00
Accounting Information Systems (AIS)	3.71	0.58	2.30	5.00
Village Fund Accountability	3.78	0.55	2.50	5.00

Source: Processed Data (2025)

Overall, the mean values of all variables exceed the midpoint of the scale, indicating that respondents generally perceive competence, training quality, internal controls, digitalisation, AIS, and accountability to be at a moderate-to-high level. However, the relatively higher standard deviations suggest variability across villages, reinforcing the need for further explanatory analysis.

Measurement Model Assessment

Before examining the hypothesised relationships, the measurement model was assessed to ensure the reliability and validity of the constructs. Indicator reliability was evaluated using outer loadings, all of which met acceptable thresholds. Internal consistency reliability was confirmed using Composite Reliability (CR), while convergent validity was assessed through Average Variance Extracted (AVE).

Table 4. Reliability and Convergent Validity

Construct	Composite Reliability (CR)	AVE
Village Apparatus Competence	0.91	0.59
Training Quality	0.89	0.56
Internal Control Systems	0.90	0.58
Digitalisation	0.88	0.55
Accounting Information Systems	0.92	0.61
Village Fund Accountability	0.93	0.63

Source: Processed Data (2025)

All CR values exceed the recommended threshold, indicating strong internal consistency. AVE values are also above minimum acceptable levels, confirming convergent validity. Discriminant validity was further confirmed using established criteria, indicating that each construct is empirically distinct.

Structural Model Results and Hypothesis Testing

The structural model was evaluated using PLS-SEM to test the hypothesised relationships among constructs. Figure 2 illustrates the measurement and structural relationships examined in this study.

Hypothesis Testing Results

Table 5. Significance Test of Hypothesised Relationships

No	Relationship	Path Coefficient (O)	T-Statistic	P-Value	Decision
H1	Competence → Accountability	0.266	3.611	0.000	Supported
H2	Training Quality → Accountability	0.230	3.086	0.002	Supported
H3	Internal Control Systems → Accountability	0.182	2.284	0.023	Supported
H4	Digitalisation × Competence → Accountability	0.180	2.226	0.026	Supported
H5	Digitalisation × Training → Accountability	0.082	1.038	0.300	Not Supported
H6	Digitalisation × Internal Controls → Accountability	−0.137	1.931	0.054	Marginal
H7	AIS × Competence → Accountability	−0.044	0.474	0.635	Not Supported
H8	AIS × Training → Accountability	0.134	2.098	0.036	Supported
H9	AIS × Internal Controls → Accountability	0.162	2.248	0.025	Supported

Source: Processed research data (2025)

Summary of Findings

The findings demonstrate that village fund accountability is significantly influenced by human capacity, organisational mechanisms, and technological support, although the effects vary in magnitude and significance. Competence and training quality exhibit the strongest direct effects, while internal control systems play a supporting role. Digitalisation and AIS function as selective moderators, strengthening certain relationships while remaining insignificant in others. These nuanced results provide a comprehensive understanding of accountability dynamics in village fund management.

Discussion

This study aims to examine the determinants of village fund accountability and to assess the contingent roles of digitalisation and accounting information systems (AIS) within the context of village governance. The discussion section interprets the empirical findings by linking them to the research objectives, theoretical foundations, and prior empirical studies, while also highlighting the novel contributions of this research.

Interpretation of Main Findings

The findings reveal that village apparatus competence, training quality, and internal control systems exert significant positive effects on village fund accountability. These results confirm that accountability in village fund management is not driven by a single factor but emerges from the interaction of human capacity, organisational mechanisms, and governance structures.

Village apparatus competence shows the strongest direct effect on accountability. This finding indicates that officials with adequate knowledge, technical skills, and regulatory understanding are better able to manage public funds responsibly and transparently. Competent personnel are more likely to comply with financial regulations, prepare accurate accountability reports, and prevent administrative errors. This result directly supports the research objective of identifying human capital as a core determinant of accountability in decentralised public financial management.

Training quality also demonstrates a significant positive influence on accountability, suggesting that continuous learning and capacity-building initiatives play an important role in translating regulations and standards into daily administrative practices. Training programmes that are relevant, practical, and aligned with village financial management needs help reduce knowledge gaps and improve procedural compliance. Internal control systems further contribute to accountability by providing formal mechanisms for supervision, verification, and risk mitigation, ensuring that financial processes are conducted in a controlled and transparent manner.

Collectively, these findings confirm that accountability in village fund management is rooted in both individual capability and institutional arrangements, consistent with the multidimensional accountability framework proposed by Mardiasmo (2018).

Digitalisation as a Contingent Governance Mechanism

One of the key objectives of this study is to examine whether digitalisation strengthens the effects of traditional accountability determinants. The findings indicate that digitalisation significantly moderates the relationship between competence and accountability, but does not significantly moderate the relationships involving training quality and internal control systems.

The significant moderating effect of digitalisation on competence suggests that digital platforms enhance the ability of competent officials to perform their duties effectively. Digital systems provide tools for real-time reporting, data validation, and information access, allowing skilled personnel to utilise their expertise more efficiently. In this sense, digitalisation acts as an amplifier of individual competence, transforming knowledge and skills into more accountable outcomes.

However, the absence of significant moderating effects for training quality and internal control systems suggests that digitalisation alone cannot automatically enhance institutional mechanisms. Training programmes may still be ineffective if they are overly formalistic or disconnected from system usage, while internal control procedures may remain weak if digital systems lack robust validation features or are poorly integrated. This finding reflects a critical insight: technology does not substitute governance capacity but complements it, and its effectiveness depends on how deeply it is embedded within organisational processes.

These results align with the cautionary arguments of Pina, Torres and Acerete (2019), who contend that digital tools may legitimise flawed administrative practices if not accompanied by substantive oversight and governance reforms.

Accounting Information Systems as Moderating Variables

In contrast to digitalisation, accounting information systems (AIS) exhibit significant moderating effects on the relationships between training quality and accountability and between internal control systems and accountability, while failing to moderate the competence–accountability relationship.

The significant moderation effects indicate that AIS plays a crucial role in converting organisational inputs into accountable outcomes. High-quality training becomes more effective when supported by reliable accounting systems that standardise procedures, guide data entry, and reduce discretion in financial reporting. Similarly, internal control systems benefit from AIS that enhance traceability, documentation, and audit trails, thereby strengthening process accountability.

The non-significant moderation effect of AIS on competence suggests that system sophistication cannot replace individual capability. Competent officials remain essential for interpreting data, making judgments, and responding to complex governance challenges. This finding reinforces the notion that technology is an enabler, not a substitute, for human capital, offering a nuanced contribution to the digital governance literature.

Comparison with Previous Studies

The results of this study are broadly consistent with prior empirical research that identifies competence, training, and internal controls as key drivers of public sector accountability (Al-

Hadeedi et al. 2020; Nguyen and Ha 2021). However, this study extends existing literature by demonstrating that these determinants do not operate uniformly across technological contexts.

While Ghani et al. (2019) and Warren et al. (2015) highlight the positive role of digital systems in enhancing accountability, the present findings suggest a more differentiated effect. Digitalisation strengthens accountability primarily when aligned with individual competence, whereas AIS strengthens accountability through institutional mechanisms such as training and internal controls. This distinction offers a novel contribution by disentangling the roles of different technological components within accountability systems.

Furthermore, the findings partially support Sargiacomo et al. (2021), who argue that managerial competence alone may be insufficient in high-risk governance environments. This study demonstrates that competence requires technological reinforcement to fully translate into accountability, particularly in decentralised village contexts characterised by limited oversight and complex administrative demands.

Theoretical Implications

Theoretically, this study advances public sector accountability theory by empirically validating the multidimensional nature of accountability in village fund management. By integrating Mardiasmo's accountability framework with contingency theory, the study demonstrates that accountability outcomes depend on the interaction between human, organisational, and technological factors.

The findings also contribute to the digital governance literature by clarifying the differentiated roles of digitalisation and AIS. Rather than treating technology as a monolithic construct, this study shows that different technological components exert distinct contingent effects. This insight enriches theoretical debates on how digital transformation reshapes accountability mechanisms in public sector organisations.

Practical and Policy Implications

From a practical perspective, the findings suggest that improving village fund accountability requires a balanced and integrated strategy. Investments in digital infrastructure should be accompanied by efforts to enhance competence, improve training relevance, and strengthen internal control implementation. Policymakers should avoid over-reliance on digital tools as standalone solutions, recognising that technology must be embedded within capable institutions and supported by skilled personnel.

For local governments and oversight bodies, the results highlight the importance of aligning training programmes with system usage and strengthening AIS functionalities that support verification and audit processes. Enhancing the integration between digital platforms and internal controls may help reduce accountability failures and mitigate risks associated with decentralised fund management.

New Insights and Research Contributions

This study provides new insights by demonstrating that digitalisation and AIS function as selective moderators rather than universal solutions. Accountability improvements emerge not from technology alone, but from the alignment between human capacity, organisational controls, and digital systems. By focusing on village governance in a developing regional context, this research contributes empirical evidence to an underexplored area of public sector accounting and governance literature.

Summary of Discussion

In summary, the discussion confirms that village fund accountability is shaped by a complex interplay of competence, training, internal controls, and technology. While digitalisation and AIS enhance accountability, their effects are contingent upon how they interact with existing governance mechanisms. These findings underscore the need for holistic governance reforms that integrate human, organisational, and technological dimensions to strengthen accountability in decentralised public financial management.

Implications

This study offers important implications for both academic scholarship and practical governance, particularly in the context of decentralised public financial management at the village level. By examining the determinants of village fund accountability and the contingent roles of digitalisation and accounting information systems (AIS), the research provides nuanced insights that extend existing theories and inform policy and managerial practices.

Theoretical Implications

From a theoretical perspective, this study contributes to the public sector accountability literature by empirically validating the multidimensional nature of accountability in village fund management. Drawing on Mardiasmo's (2018) framework, the findings demonstrate that accountability is not a unidimensional outcome of regulatory compliance, but rather a complex construct shaped by human competence, organisational controls, and technological infrastructure. This reinforces and refines accountability theory by highlighting the need to consider multiple, interacting dimensions when analysing public sector governance outcomes.

The study also advances contingency theory in the context of public sector accounting by demonstrating that the effectiveness of accountability determinants is conditional upon technological context. The findings reveal that competence, training quality, and internal control systems do not uniformly translate into accountability outcomes; instead, their effects are contingent upon the presence and quality of digitalisation and AIS. This challenges simplified models that treat governance mechanisms as universally effective, and instead supports a more nuanced, context-dependent theoretical approach.

Importantly, the study differentiates between digitalisation and accounting information systems as distinct technological constructs with different moderating roles. While prior studies often treat technology as a single, homogeneous factor, this research shows that digitalisation primarily amplifies individual competence, whereas AIS strengthens organisational mechanisms such as training and internal controls. This distinction enriches digital governance theory by clarifying how different technological components interact with human and institutional factors to shape accountability.

Methodologically, the study contributes by demonstrating the suitability of PLS-SEM for analysing complex governance models involving multiple latent constructs and moderating effects. By integrating measurement and structural assessments, the study provides a robust analytical framework that future researchers can adapt to examine accountability and governance issues in other decentralised or resource-constrained contexts.

Finally, by focusing on village-level governance in Indonesia, the study addresses a contextual gap in the literature, which has largely concentrated on central or municipal governments. The empirical evidence generated offers a foundation for comparative studies across regions or countries, thereby expanding the geographical and institutional scope of public sector accountability research.

Practical and Managerial Implications

From a practical and managerial standpoint, the findings offer several actionable insights for policymakers, local governments, and oversight institutions seeking to strengthen village fund accountability.

First, the strong influence of village apparatus competence underscores the importance of investing in human capital development. Policymakers should prioritise competency-based recruitment, continuous professional development, and merit-based career pathways for village officials involved in financial management. Enhancing technical and regulatory knowledge is essential to ensure that decentralised funds are managed responsibly and transparently.

Second, the significant role of training quality highlights the need to redesign training programmes to be more practical, context-specific, and system-oriented. Training initiatives should be closely aligned with actual financial management tasks and the digital systems used in village administration. One-off or purely theoretical training sessions are unlikely to produce meaningful accountability improvements without integration into daily practices.

Third, the findings regarding internal control systems emphasise the necessity of strengthening the implementation of the Government Internal Control System (SPIP) at the village level. Oversight bodies should focus not only on formal compliance but also on the effectiveness of control activities, monitoring mechanisms, and follow-up actions. Strengthening internal controls can help prevent misuse of funds and enhance process accountability.

Fourth, the differentiated roles of digitalisation and AIS suggest that technology investments should be strategic rather than symbolic. Digital platforms should be designed to support real-time validation, data integration, and auditability, rather than merely fulfilling administrative requirements. Policymakers should ensure that digitalisation initiatives are accompanied by adequate training and system integration to maximise their governanceimpact.

For practitioners, the findings imply that accountability improvements require an integrated approach that aligns human capability, organisational controls, and technological infrastructure. Village governments should avoid relying solely on digital tools as standalone solutions and instead embed them within comprehensive governance frameworks.

For oversight institutions such as audit bodies and supervisory agencies, the results provide evidence to support the use of AIS as a tool for enhancing monitoring and evaluation processes. Improved data reliability and traceability can facilitate more effective audits and early detection of irregularities.

Implications for Future Research

The findings also open several avenues for future research. Scholars may extend this study by exploring additional contingency factors, such as organisational culture, leadership, or political dynamics, that may interact with technology and governance mechanisms. Longitudinal studies could examine how accountability evolves over time as digital systems mature. Comparative research across regions or countries would further enhance understanding of how contextual factors shape accountability in decentralised governance systems.

Summary of Implications

In summary, this study contributes theoretically by refining accountability and contingency theories through the integration of digital governance mechanisms, and practically by offering evidence-based recommendations for improving village fund accountability. The implications underscore the importance of holistic governance reforms that combine human capacity development, institutional strengthening, and strategic technology deployment to achieve sustainable accountability outcomes.

CONCLUSION

This study set out to examine the determinants of village fund accountability and to assess the contingent roles of digitalisation and accounting information systems (AIS) within the context of village governance. Specifically, the research aimed to analyse how village apparatus competence, training quality, and internal control systems influence accountability, and whether technological mechanisms strengthen or weaken these relationships. The findings provide a comprehensive understanding of accountability dynamics in decentralised public financial management.

The results demonstrate that village apparatus competence, training quality, and internal control systems significantly enhance village fund accountability. Among these determinants, competence emerges as the strongest predictor, underscoring the central role of human capital in managing public resources responsibly. Training quality also contributes positively, indicating that relevant and practice-oriented training is essential for translating regulatory requirements into accountable administrative practices. Internal control systems further strengthen accountability by providing formal mechanisms for supervision, verification, and risk mitigation.

Beyond these direct effects, the study reveals that technology plays a selective and contingent role. Digitalisation strengthens the relationship between competence and accountability, suggesting that digital tools amplify the effectiveness of skilled personnel. However, digitalisation does not uniformly enhance the effects of training quality and internal controls, highlighting that technology alone cannot compensate for weak institutional integration. In contrast, AIS significantly strengthens the effects of training quality and internal control systems on accountability, demonstrating its importance in standardising procedures, improving data reliability, and reinforcing process accountability.

Taken together, these findings confirm that village fund accountability is shaped by a complex interaction between human capability, organisational mechanisms, and technological infrastructure. Accountability improvements cannot be achieved through isolated interventions; rather, they require an integrated governance approach that aligns competence development, institutional controls, and digital systems.

Overall Contributions

This study makes several important contributions. Theoretically, it extends public sector accountability literature by empirically validating the multidimensional nature of accountability in village fund management. By integrating accountability theory with contingency theory, the study demonstrates that the effectiveness of governance mechanisms is context-dependent and influenced by technological conditions. The differentiation between digitalisation and AIS as distinct moderating variables provides new insights into how various forms of technology interact with human and organisational factors.

Methodologically, the study demonstrates the suitability of PLS-SEM for analysing complex governance models involving multiple constructs and moderating effects. The empirical evidence generated from village-level governance contributes to an underexplored area in public sector accounting research, particularly in developing and decentralised contexts.

Practically, the findings offer evidence-based guidance for policymakers and practitioners seeking to strengthen accountability in village fund management. The study highlights the need to invest simultaneously in human capacity, institutional controls, and digital infrastructure, rather than relying on technology as a standalone solution.

Limitations and Directions for Future Research

Despite its contributions, this study has several limitations that should be acknowledged. First, the research relies on cross-sectional survey data, which limits the ability to capture changes in accountability practices over time. Future studies may adopt longitudinal designs to examine how accountability evolves as digital systems mature and governance reforms are implemented.

Second, the study focuses on three regencies, which may limit the generalisability of the findings to other regions with different institutional or socio-political characteristics. Comparative studies across provinces or countries would help to validate and extend the findings.

Third, the data are based on self-reported perceptions, which may be subject to response bias. Future research could triangulate survey data with audit reports, financial records, or qualitative interviews to provide a more comprehensive assessment of accountability.

Finally, future studies may explore additional contingency factors, such as organisational culture, leadership style, political dynamics, or community participation, to further enrich understanding of accountability mechanisms in decentralised governance.

Concluding Remarks

In conclusion, this study underscores that strengthening village fund accountability requires more than regulatory compliance or technological adoption. Sustainable accountability emerges from the alignment of competent personnel, effective institutional controls, and strategically implemented digital systems. By providing empirical evidence from village governance, this research contributes to both academic discourse and practical efforts to improve public financial management and uphold the integrity of decentralised development initiatives.

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