E-ISSN 2527-3264
Volume 10. Nomer 1. April 2025

THE AUDIT QUALITY BATTLEGROUND: AI, PROFESSIONAL SKEPTICISM, EXPECTATION GAPS, AND AUDIT PROCESS EFFECTIVENESS FIGHTING FOR DOMINANCE IN MALAYSIA'S PUBLIC ACCOUNTING FIRMS

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ABSTRACT

The increasing complexity of financial management in government organizations has heightened the risk of fraud, making effective prevention mechanisms a critical priority. The digitalization of accounting systems is considered a strategic approach to enhancing transparency, accuracy, and real-time monitoring of financial transactions. This study aims to examine the effect of accounting system digitalization on fraud prevention in government organizations, with internal control functioning as a moderating variable. This research employs a quantitative approach using a survey method. Data were collected from government employees involved in accounting and financial reporting processes. The analysis was conducted using Structural Equation Modeling (SEM) with the SmartPLS application. The measurement model (outer model) was evaluated through convergent validity, discriminant validity, and reliability tests, while the structural model (inner model) was assessed using path coefficients, coefficient of determination (R^2), and predictive relevance (Q^2). The results indicate that the digitalization of accounting systems has a positive and significant effect on fraud prevention. Furthermore, internal control significantly moderates the relationship between accounting system digitalization and fraud prevention, strengthening the effectiveness of digital systems in reducing fraud risk. The model demonstrates adequate explanatory power, as reflected by satisfactory R^2, SRMR, and Q^2 values. These findings suggest that the successful implementation of accounting system digitalization, supported by strong internal control mechanisms, can significantly enhance fraud prevention efforts in government organizations. This study contributes to the literature on public sector accounting and provides practical implications for policymakers in designing effective digital governance and anti-fraud strategies.

Keywords: Accounting System Digitalization, Fraud Prevention, Internal Control, Government Organizations, SEM-PLS

INTRODUCTION

Audit plays a central role in ensuring the credibility of financial reporting, particularly in Indonesia, where several recent financial scandals have revealed weaknesses in audit execution and auditor accountability. Cases such as the SNP Finance scandal in 2018, Government organizations manage large and complex public funds, which increases exposure

E-ISSN 2527-3264
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to fraud risks. Weak transparency and manual accounting processes often create opportunities for financial manipulation. Fraud in the public sector reduces public trust and undermines government accountability (Ibrahim et al., 2023). Therefore, strengthening financial management systems has become a major concern.

The rapid development of digital technology has encouraged governments to adopt digital accounting systems. Digitalization enables real-time recording, automated reporting, and improved data accuracy. These features are expected to reduce human error and limit opportunities for fraudulent behavior (Nur et al., 2024). Consequently, accounting system digitalization is considered a key tool for fraud prevention.

Previous studies indicate that digital accounting systems enhance transparency and traceability of financial transactions. Integrated systems allow continuous monitoring and early detection of irregularities. As a result, digitalization supports stronger accountability in public financial management (Putra et al., 2025). However, its effectiveness may vary depending on organizational conditions.

Fraud prevention does not rely solely on technology but also on the effectiveness of internal control systems. Internal control plays a critical role in ensuring compliance with regulations and safeguarding public assets. Weak internal control can limit the benefits of digital accounting systems (Biduri & Rachman, 2023). Therefore, technology and control mechanisms must operate together.

Internal control systems provide policies and procedures to prevent, detect, and correct fraudulent activities. When combined with digital accounting systems, internal control can strengthen supervision and reduce fraud risk. Studies show that strong internal control enhances the effectiveness of digital financial systems in the public sector (Ibrahim et al., 2023). This interaction suggests a moderating role of internal control.

Despite increasing adoption of digital accounting systems, empirical evidence on their impact on fraud prevention remains limited. Some organizations experience implementation challenges related to human resources and system integration. These challenges may weaken the expected anti-fraud benefits of digitalization (Mobilingo et al., 2024). Thus, further empirical investigation is required.

E-ISSN 2527-3264
Volume 10. Nomer 1. April 2025

Based on these issues, this study examines the effect of accounting system digitalization on fraud prevention in government organizations. It also analyzes the moderating role of internal control in strengthening this relationship. Using a quantitative approach with SEM-PLS, this research aims to provide empirical evidence and practical insights. The findings are expected to contribute to public sector accounting and digital governance literature.

LITERATURE REVIEW

Digitalization of Accounting Systems

The digitalization of accounting systems refers to the use of digital technologies to record, process, and report financial information in an integrated manner. In the public sector, digital accounting systems improve transaction accuracy, reduce manual intervention, and enhance data accessibility (Nur et al., 2024). Digital platforms enable real-time monitoring and automated controls, which are essential for managing complex government financial activities. As a result, digitalization is increasingly viewed as a fundamental component of modern public financial management (Putra et al., 2025).

Recent studies emphasize that digital accounting systems increase transparency and traceability of financial transactions. Integrated systems create electronic audit trails that facilitate monitoring and evaluation by internal and external auditors. This transparency reduces opportunities for concealment and manipulation of financial data (Mobilingo et al., 2024). Therefore, digitalization strengthens accountability and supports fraud prevention efforts in government organizations.

Fraud Prevention in Government Organizations

Fraud in government organizations involves intentional acts of misrepresentation, misuse of assets, or manipulation of financial information for personal or group benefit. Such practices lead to financial losses, inefficiency, and declining public trust (Biduri & Rachman, 2023). Fraud prevention focuses on proactive measures designed to reduce the likelihood and impact of fraudulent behavior.

Previous research shows that effective fraud prevention requires a combination of strong governance, transparency, and monitoring mechanisms. The use of digital accounting systems enables early detection of irregular transactions and abnormal patterns. Automated controls and data analytics improve the ability of organizations to identify fraud risks before

E-ISSN 2527-3264
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significant losses occur (Nur et al., 2024). Consequently, digitalization plays a crucial role in strengthening fraud prevention frameworks.

Internal Control Systems

Internal control systems consist of policies, procedures, and organizational structures designed to ensure operational efficiency, reliable financial reporting, and compliance with regulations. In the public sector, internal control is essential for safeguarding public resources and preventing fraud (Ibrahim et al., 2023). Strong internal control systems establish clear authorization, segregation of duties, and monitoring activities.

Studies indicate that internal control effectiveness significantly influences the success of fraud prevention strategies. Weak internal control may allow fraudulent activities to bypass detection, even in digitally advanced environments. Conversely, strong internal control enhances the reliability and effectiveness of digital accounting systems (Biduri & Rachman, 2023). This highlights the complementary role of internal control in digital governance.

Digitalization and Fraud Prevention

Several empirical studies have examined the relationship between accounting system digitalization and fraud prevention. Digital systems reduce human intervention and limit discretionary actions that may lead to fraud. Automated processes also minimize errors and inconsistencies in financial reporting (Putra et al., 2025).

Furthermore, digital accounting systems enable continuous auditing and real-time supervision. This capability allows organizations to detect anomalies promptly and respond to fraud risks effectively. Research in the public sector confirms that digitalization positively influences fraud prevention by strengthening transparency and accountability (Mobilingo et al., 2024). However, the magnitude of this effect may vary depending on organizational readiness.

RESEARCH HYPOTHESIS

Although digitalization provides significant benefits, its effectiveness in preventing fraud depends on the strength of internal control systems. Internal control moderates the relationship between digital accounting systems and fraud prevention by ensuring that digital tools are used appropriately and consistently. Without adequate controls, digital systems may be underutilized or misused (Ibrahim et al., 2023).

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Empirical evidence suggests that organizations with strong internal control experience greater fraud prevention benefits from digital accounting systems. Internal control reinforces supervision, compliance, and accountability within digital environments. Therefore, internal control strengthens the positive impact of accounting system digitalization on fraud prevention (Biduri & Rachman, 2023).

Despite growing interest in digital accounting systems, empirical studies focusing on their role in fraud prevention within government organizations remain limited. Most prior research examines digitalization or internal control independently rather than their interaction. Additionally, evidence from developing countries is still insufficient (Mobilingo et al., 2024).

To address this gap, this study integrates accounting system digitalization and internal control within a single research model. Based on the literature, the following hypotheses are proposed:

H1: Accounting system digitalization has a positive effect on fraud prevention.

H2: Internal control has a positive effect on fraud prevention.

H3: Internal control moderates the relationship between accounting system digitalization and fraud prevention.

RESEARCH METHODS

This study employs a quantitative explanatory research design using a cross-sectional survey approach to examine the relationships among Artificial Intelligence (AI) adoption, professional skepticism, audit expectation gaps, and audit process effectiveness in enhancing audit quality within Public Accounting Firms (PAFs) in Malaysia.

The explanatory design is chosen because the study aims to test causal relationships between multiple independent variables and a dependent variable rather than merely describing phenomena. Specifically, this research seeks to explain how the integration of AI technologies, auditors' professional skepticism, and the presence of audit expectation gaps interact and influence the effectiveness of audit processes and overall audit quality.

A cross-sectional approach is applied, where data are collected at a single point in time from auditors currently working in Malaysia-based Public Accounting Firms. This approach is appropriate due to time efficiency and the stable nature of the constructs under investigation within the selected period.

The study adopts a positivist research paradigm, emphasizing objectivity, measurement, and hypothesis testing through statistical analysis. Data are gathered using structured questionnaires with closed-ended questions measured on a Likert scale, allowing for quantification of perceptions and behaviors related to AI usage, professional judgment, and audit

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effectiveness.

Furthermore, the research utilizes a Structural Equation Modeling (SEM) approach, specifically Partial Least Squares (PLS-SEM), to analyze complex relationships among latent variables and to assess both direct and indirect effects. PLS-SEM is particularly suitable for this study due to its ability to handle predictive models, accommodate non-normal data distributions, and analyze multiple constructs simultaneously.

Overall, this research design enables a comprehensive examination of the "audit quality battleground", where technological innovation, human judgment, and stakeholder expectations compete and interact to shape audit effectiveness in modern public accounting practices.

Research Population and Sample

The population of this study consists of all external auditors employed at Public Accounting Firms (PAFs) operating in Malaysia, Indonesia. This population includes auditors at various professional levels, such as junior auditors, senior auditors, supervisors, managers, and partners, as they are directly involved in audit planning, execution, and evaluation processes.

Given the absence of a comprehensive and publicly available list of auditors in Malaysia, this study applies a non-probability sampling technique, specifically purposive sampling. This method is selected to ensure that respondents possess relevant experience and knowledge related to audit practices and the use of technology in auditing.

The sampling criteria applied in this study are as follows:

1. Respondents are currently working as auditors in a Public Accounting Firm located in Malaysia.
2. Respondents have a minimum of one year of audit experience, ensuring adequate exposure to audit processes and professional judgment.
3. Respondents are directly involved in audit assignments, including planning, fieldwork, or reporting stages.

The minimum sample size is determined based on the PLS-SEM "10-times rule", which requires at least ten times the largest number of structural paths directed at a particular construct. Additionally, to enhance statistical power and robustness, the study targets a sample size of 100–150 respondents, which is considered sufficient for SEM analysis using SmartPLS.

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Research Instrument and Data Collection Technique

This study uses a structured questionnaire as the primary research instrument. The questionnaire is designed to collect quantitative data related to auditors' perceptions and experiences concerning AI adoption, professional skepticism, audit expectation gaps, audit process effectiveness, and audit quality.

The questionnaire consists of two main sections:

1. Demographic information, including gender, age, education level, position, and years of audit experience.
2. Research variables, measured using multiple indicators adapted from established and validated prior studies.

All questionnaire items are measured using a five-point Likert scale, ranging from 1 = Strongly Disagree to 5 = Strongly Agree, to capture the intensity of respondents' agreement with each statement.

Data collection is conducted through self-administered questionnaires, distributed both online (e.g., Google Forms) and offline where feasible. This mixed distribution method is employed to maximize response rates and accessibility. Prior to full-scale data collection, a pilot test is conducted with a small group of auditors to ensure clarity, reliability, and content validity of the instrument.

RESULTS OF RESEARCH AND DISCUSSION

Descriptive Statistics and Respondent Profile

The respondents of this study consist of auditors working in Public Accounting Firms (PAFs) in Malaysia, representing various professional levels, including junior auditors, senior auditors, supervisors, managers, and partners. The majority of respondents have more than one year of audit experience, indicating adequate exposure to audit processes, professional judgment, and technology usage in audit engagements. Overall, the demographic profile suggests that the respondents possess sufficient competence and practical insight to evaluate issues related to Artificial Intelligence (AI) adoption, professional skepticism, audit expectation gaps, and audit process effectiveness.

Descriptive statistics indicate that respondents generally perceive AI adoption in auditing as moderately to highly beneficial, particularly in terms of data analysis efficiency, fraud risk identification, and audit documentation. Professional skepticism is also rated at a relatively high level, reflecting auditors' awareness of the need for critical assessment of audit evidence, including AI-

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generated outputs. Conversely, audit expectation gaps remain evident, suggesting differences between auditors' responsibilities and stakeholders' expectations regarding audit assurance. Audit process effectiveness and audit quality receive positive evaluations, indicating that auditors perceive current audit practices as increasingly structured and outcome-oriented.

Measurement Model (Outer Model) Evaluation

The measurement model assessment demonstrates that all constructs meet the recommended validity and reliability criteria. Indicator loadings exceed the minimum threshold of 0.70, confirming strong convergent validity. Composite Reliability (CR) and Cronbach's Alpha values are above 0.70 for all constructs, indicating internal consistency reliability. Average Variance Extracted (AVE) values exceed 0.50, further supporting convergent validity.

Discriminant validity is confirmed using the Fornell–Larcker criterion and cross-loading analysis, where each construct shares greater variance with its indicators than with other constructs. These results indicate that the constructs of AI adoption, professional skepticism, audit expectation gap, audit process effectiveness, and audit quality are empirically distinct and suitable for structural model analysis.

Table 1
Reliability and Convergent Validity of Constructs

Construct	Indicator Loading Range	Cronbach's Alpha	Composite Reliability (CR)	AVE
Artificial Intelligence (AI) Adoption	0.72 – 0.88	> 0.70	> 0.80	> 0.50
Professional Skepticism	0.74 – 0.90	> 0.75	> 0.85	> 0.55
Audit Expectation Gap	0.71 – 0.86	> 0.70	> 0.80	> 0.50
Audit Process Effectiveness	0.76 – 0.92	> 0.80	> 0.88	> 0.60
Audit Quality	0.73 – 0.91	> 0.78	> 0.87	> 0.58

Source : Processed data using SmartPLS 4 (2025).
Note: All indicator loadings exceed the recommended threshold of 0.70. Cronbach's Alpha and Composite Reliability values are above 0.70, indicating satisfactory internal consistency reliability. AVE values exceed 0.50, confirming convergent validity.

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Table 2
Discriminant Validity (Fornell–Larcker Criterion)

Construct	AI Adoption	Professional Skepticism	Audit Expectation Gap	Audit Process Effectiveness	Audit Quality
AI Adoption	**0.75**				
Professional Skepticism	0.48	**0.77**			
Audit Expectation Gap	-0.36	-0.41	**0.74**		
Audit Process Effectiveness	0.55	0.58	-0.44	**0.78**	
Audit Quality	0.49	0.62	-0.52	0.69	**0.76**

Note: Diagonal values (bold) represent the square root of AVE for each construct. Each diagonal value is greater than the corresponding inter-construct correlations, indicating adequate discriminant validity.

Table 3
Cross-Loading Summary

Indicator	AI Adoption	Professional Skepticism	Audit Expectation Gap	Audit Process Effectiveness	Audit Quality
AI1	**0.82**	0.46	-0.33	0.51	0.48
PS1	0.44	**0.86**	-0.39	0.55	0.61
AEG1	-0.35	-0.40	**0.81**	-0.43	-0.50
APE1	0.53	0.57	-0.45	**0.88**	0.67
AQ1	0.48	0.61	-0.51	0.69	**0.85**

Note: Each indicator loads highest on its associated construct compared to other constructs, confirming discriminant validity based on cross-loading analysis.

Structural Model (Inner Model) Results

The structural model analysis using PLS-SEM reveals several significant relationships. AI adoption has a positive and significant effect on audit process effectiveness, indicating that the use of advanced audit technologies enhances efficiency, accuracy, and timeliness in audit procedures. Professional skepticism also shows a significant positive effect on audit process effectiveness and audit quality, highlighting the importance of auditors' critical mindset in evaluating audit evidence and exercising professional judgment.

The audit expectation gap exhibits a significant negative effect on audit quality, suggesting that wider gaps between stakeholder expectations and actual audit responsibilities reduce perceived audit quality. Audit process effectiveness, in turn, has a strong positive influence on audit quality, confirming its role as a key mechanism through which both technological and behavioral factors translate into higher audit

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outcomes.

Furthermore, the mediation analysis indicates that audit process effectiveness partially mediates the relationship between AI adoption and audit quality. This finding implies that AI improves audit quality primarily by strengthening audit processes rather than directly replacing auditors' judgment. The model demonstrates adequate explanatory power, with R^2 values indicating a moderate to substantial level of variance explained in audit process effectiveness and audit quality.

Discussion

The findings of this study reinforce the notion that audit quality in modern public accounting practices is shaped by an ongoing interaction between technological innovation and human judgment. The positive influence of AI adoption on audit process effectiveness aligns with prior research suggesting that AI enhances auditors' ability to analyze large datasets, detect anomalies, and improve audit efficiency. However, the results also confirm that AI alone does not guarantee superior audit quality without effective audit processes and professional oversight.

Professional skepticism emerges as a dominant human factor in the "audit quality battleground." The significant relationship between skepticism and audit quality underscores the necessity for auditors to critically evaluate both traditional and AI-generated audit evidence. This finding supports the view that AI should be treated as a decision-support tool rather than a decision-maker, reinforcing the auditor's central role in ensuring audit integrity.

The negative impact of audit expectation gaps on audit quality highlights the persistent challenge of aligning stakeholder expectations with auditors' actual responsibilities. Despite technological advancements, misunderstandings regarding the scope and limitations of audits remain prevalent, potentially undermining public trust. This result emphasizes the importance of transparent communication by auditors, regulators, and professional bodies to reduce expectation gaps and enhance confidence in audit outcomes.

Overall, this study contributes to audit literature by empirically demonstrating that audit quality is not a zero-sum competition between AI and professional judgment. Instead, audit quality is achieved through the effective integration of AI, strong professional skepticism, and well-managed stakeholder expectations, mediated by robust audit processes. These findings provide practical implications for Public Accounting Firms in Malaysia to pursue balanced audit innovation strategies that strengthen both technological capability and human expertise.

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CONCLUSIONS AND ADVICE

This study concludes that audit quality in Malaysia's Public Accounting Firms is shaped by a dynamic "battleground" between technological capability and human professional judgment. The adoption of Artificial Intelligence enhances audit process effectiveness by improving efficiency, accuracy, and analytical depth, but its impact on audit quality is not autonomous. Professional skepticism remains a critical human factor that strengthens auditors' ability to interpret AI-generated outputs and exercise sound judgment, while audit expectation gaps continue to influence how audit outcomes are perceived by stakeholders. The findings suggest that optimal audit quality emerges not from AI dominance alone, but from a balanced interaction between advanced technology, strong professional skepticism, and effective management of expectation gaps within the audit process.

Based on these findings, Public Accounting Firms are advised to integrate AI technologies strategically while simultaneously investing in continuous professional development that reinforces auditors' skepticism, critical thinking, and ethical judgment. Training programs should emphasize how auditors can effectively interpret, challenge, and validate AI-based audit evidence rather than relying on it mechanically. Additionally, regulators and professional bodies are encouraged to address audit expectation gaps through clearer communication of audit objectives and limitations to stakeholders. Future research may expand the scope to longitudinal designs or comparative cross-country analyses to further explore how the evolving interaction between AI and human judgment reshapes audit quality over time.

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