

Bridging Accounting Information Systems and Audit Quality in Advancing SDGs: The Moderating Role of Institutional Governance and Transparency

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ABSTRACT

This study aimed to examine the effect of Accounting Information Systems (AIS) and Audit Quality on SDG Reporting, with Institutional Governance and Transparency serving as moderating variables. The research was conducted at state-owned and private organizations in Indonesia that had implemented sustainability reporting practices. The population consisted of finance managers, internal auditors, accounting staff, and sustainability reporting officers. A total of 180 respondents were selected using purposive sampling techniques. Data were collected through structured questionnaires distributed online and analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The results showed that Accounting Information Systems and Audit Quality had a positive and significant effect on SDG Reporting. In addition, Institutional Governance and Transparency strengthened the relationship between AIS, Audit Quality, and SDG Reporting effectiveness. Organizations with integrated accounting systems, high audit quality, and transparent governance mechanisms were found to produce more reliable and comprehensive sustainability reports aligned with Sustainable Development

Goals (SDGs). The study highlighted the importance of combining technological capability, audit effectiveness, and governance quality in improving organizational sustainability reporting practices and stakeholder trust.

1. INTRODUCTION

The increasing global commitment toward sustainable development has encouraged organizations to improve the quality, transparency, and accountability of sustainability reporting practices. The adoption of the Sustainable Development Goals (SDGs) introduced by the United Nations has transformed the way organizations communicate their economic, social, and environmental performance. Sustainability reporting is no longer considered voluntary disclosure alone, but has evolved into a strategic instrument for demonstrating organizational responsibility and long-term sustainability commitment. Recent global surveys revealed that stakeholder demand for Environmental, Social, and Governance (ESG) transparency continues to increase significantly due to rising public concern regarding climate change, social inequality, and corporate accountability (KPMG, 2024). Consequently, organizations are required to provide reliable, transparent, and comprehensive SDG-related disclosures. Despite the increasing importance of SDG reporting, many organizations still face challenges in producing high-quality sustainability disclosures. A report published by Global Reporting Initiative (2023) indicated that many sustainability reports remain inconsistent, lack comparability, and contain insufficient assurance regarding the reliability of disclosed information. Similarly, the global ESG reporting survey conducted by KPMG (2024) showed that although more companies have adopted sustainability reporting practices, the quality and transparency of the information disclosed remain varied across industries and countries. In Indonesia, sustainability reporting implementation is also relatively uneven, particularly among organizations with limited technological integration and weak governance mechanisms. According to Otoritas Jasa Keuangan (2023), many organizations still encounter difficulties in integrating sustainability data into their accounting and reporting systems, resulting in incomplete or less credible sustainability disclosures.

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One of the major factors influencing the effectiveness of SDG reporting is the implementation of Accounting Information Systems (AIS). AIS plays an important role in collecting, processing, storing, and disseminating organizational information needed for both financial and non-financial reporting. Effective AIS implementation enables organizations to improve data accuracy, reporting timeliness, information integration, and decision-making quality (Alkaraan et al., 2023). In the context of sustainability reporting, AIS facilitates organizations in managing ESG and SDG-related data systematically and efficiently. However, many organizations still face technological limitations and insufficient system integration, which negatively affect the quality of sustainability reporting. Previous studies found that organizations with stronger AIS capabilities tend to produce more transparent and reliable sustainability disclosures (Ismail & King, 2022). Nevertheless, limited studies have specifically examined the relationship between AIS and SDG reporting effectiveness within an integrated sustainability framework.

In addition to AIS, Audit Quality is also considered a critical factor in improving the credibility and reliability of sustainability reporting. High-quality audits provide assurance regarding the accuracy and transparency of sustainability disclosures, thereby increasing stakeholder trust in organizational reporting practices. As sustainability reports increasingly incorporate ESG-related information, the role of auditors becomes more complex due to the need to evaluate both financial and non-financial disclosures. According to International Auditing and Assurance Standards Board (2023), assurance practices for sustainability reporting are becoming increasingly important in strengthening organizational accountability and reducing information asymmetry. Previous research conducted by Velte (2023) demonstrated that higher audit quality positively influences sustainability reporting credibility and stakeholder confidence. However, the effectiveness of audit quality in supporting SDG reporting may vary depending on organizational governance structures and transparency practices.

Institutional Governance and Transparency are also fundamental elements influencing sustainability reporting quality. Good governance mechanisms encourage accountability, ethical conduct, compliance, and effective oversight of organizational activities. Transparency enhances stakeholder trust by ensuring open communication and accessible reporting practices. Weak governance structures may increase the risk of greenwashing practices, where organizations exaggerate sustainability claims without adequate supporting evidence (OECD, 2023). In contrast, organizations with strong governance and transparency practices are more likely to produce reliable sustainability disclosures aligned with SDG objectives. Several studies confirmed that governance quality positively affects sustainability reporting effectiveness and organizational legitimacy (Frias-Aceituno et al., 2022; Velte, 2023). Nevertheless, empirical evidence regarding the moderating role of Institutional Governance and Transparency in the relationship between AIS, Audit Quality, and SDG reporting remains limited, especially in developing countries such as Indonesia.

Previous studies have generally focused on the direct relationship between AIS, audit quality, governance, or sustainability reporting separately. Limited research has integrated these variables into a comprehensive framework examining how AIS and Audit Quality influence SDG reporting with Institutional Governance and Transparency as moderating variables. This research gap highlights the need for further investigation regarding the integration of technological capability, audit effectiveness, and governance quality in supporting sustainability reporting practices. Therefore, this study aimed to examine the effect of Accounting Information Systems and Audit Quality on SDG Reporting while analyzing the moderating role of Institutional Governance and Transparency. This study is expected to contribute theoretically by extending the literature on accounting information systems, auditing, governance, and sustainability reporting. Practically, the findings may provide recommendations for organizations, regulators, and policymakers in improving the quality, transparency, and credibility of sustainability reporting practices to support the achievement of Sustainable Development Goals (SDGs).

Several recent global cases further demonstrated the importance of reliable sustainability reporting, strong governance mechanisms, and high-quality assurance practices. One of the most widely discussed cases was the greenwashing controversy involving [Volkswagen AG](#), where the company manipulated environmental emission data while publicly promoting sustainability commitments. The case significantly reduced stakeholder trust and highlighted weaknesses in transparency, governance oversight, and reporting assurance mechanisms. Similarly, sustainability-related controversies involving [BP plc](#) and [Shell plc](#) raised concerns regarding inconsistencies between sustainability disclosures and actual environmental performance, particularly related to carbon emissions and climate commitments (Eccles & Klimenko, 2022). These cases emphasized that sustainability disclosures without effective governance and audit quality may lead to reputational risks and reduced public confidence.

In the Indonesian context, several phenomena also reflected challenges in sustainability reporting implementation. Although sustainability reporting has increasingly become a regulatory concern under Otoritas Jasa Keuangan regulations, many organizations still disclose sustainability information symbolically rather than substantively. Cases involving environmental damage, deforestation, and waste management controversies among mining, palm oil, and manufacturing companies demonstrated that some organizations still struggled to align sustainability commitments with operational practices. Furthermore, limited integration between accounting information systems and sustainability reporting processes often resulted in inconsistent ESG disclosures and difficulties in measuring SDG performance indicators accurately (OJK, 2023). These conditions indicated that sustainability reporting quality in Indonesia remained highly dependent on organizational technological readiness, governance quality, and transparency practices.

Another important phenomenon was the increasing global demand for sustainability assurance services. Investors and stakeholders have become more critical toward ESG disclosures due to concerns regarding incomplete, biased, or unverifiable sustainability information. According to International Federation of Accountants (2023), many organizations worldwide still lacked independent assurance for sustainability reports, creating uncertainty regarding the credibility of ESG disclosures. This issue became increasingly important following the implementation of new international sustainability standards issued by the International Sustainability Standards Board, which encouraged organizations to improve transparency, comparability, and accountability in sustainability reporting practices.

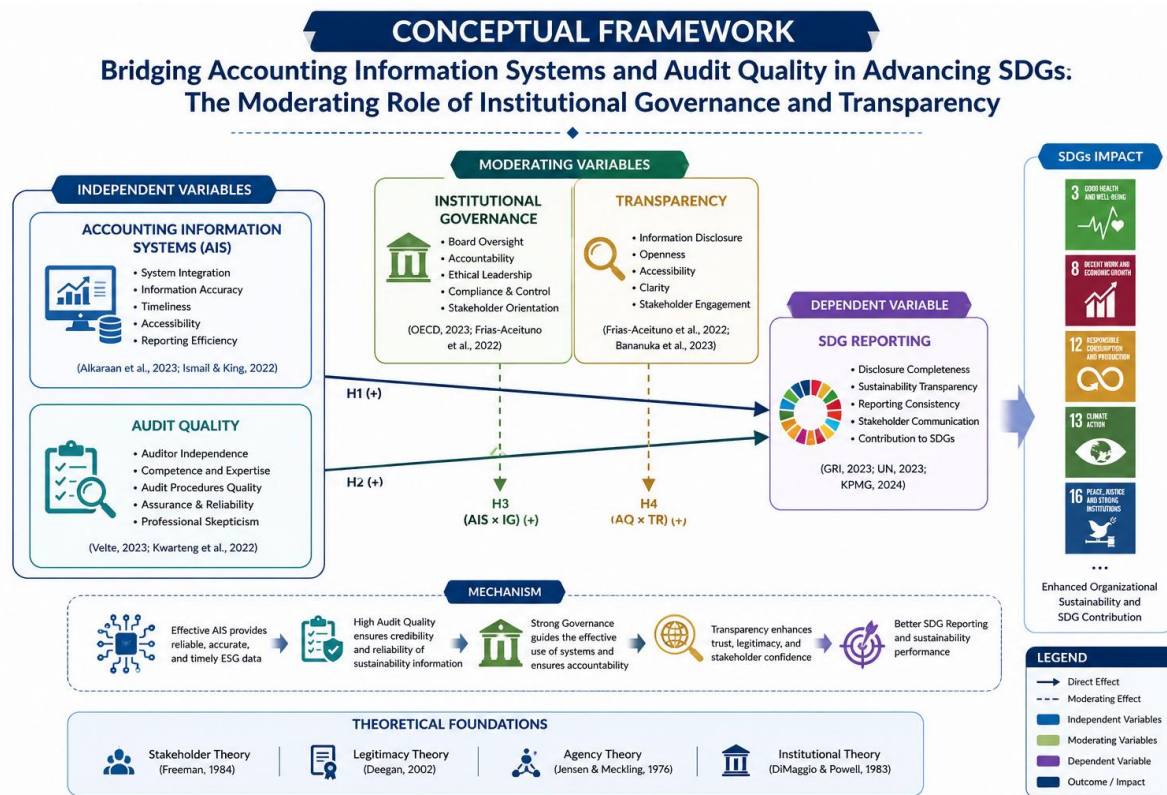
The rapid development of digital transformation also created new challenges and opportunities in sustainability reporting. Organizations increasingly relied on Accounting Information Systems (AIS) and digital platforms to manage sustainability data. However, weak system integration, poor data governance, and inadequate audit mechanisms frequently reduced the reliability of sustainability information. Previous studies indicated that organizations with ineffective AIS implementation often experienced data inconsistency, reporting delays, and limited sustainability disclosure quality (Alkaraan et al., 2023). Therefore, the integration of AIS, audit quality, institutional governance, and transparency became increasingly essential for supporting effective SDG reporting and organizational sustainability performance in the modern business environment.

2. METHODS

This study employed a quantitative research approach to examine the relationship between Accounting Information Systems (AIS), Audit Quality, and SDG Reporting, with Institutional Governance and Transparency acting as moderating variables. The quantitative method was selected because it enabled the researcher to measure relationships among variables objectively and statistically through hypothesis testing. The study was conducted in organizations located in Indonesia that had implemented sustainability reporting or Environmental, Social, and Governance (ESG)-related disclosure practices. The population consisted of finance managers, accounting staff, internal auditors, external auditors, sustainability reporting officers, and organizational management involved in the preparation and evaluation of sustainability reports. These respondents were selected because they possessed direct knowledge regarding AIS implementation, audit practices, governance mechanisms, transparency policies, and SDG reporting activities within their organizations.

The sampling technique used in this study was purposive sampling. The criteria for selecting respondents included organizations that had implemented Accounting Information Systems and sustainability reporting practices for at least three years. A total of 180 respondents participated in this study. Data were collected through structured questionnaires distributed online using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire items were developed based on previous studies related to AIS effectiveness, audit quality, governance, transparency, and sustainability reporting (Velte, 2023; Alkaraan et al., 2023). The independent variables in this study were Accounting Information Systems and Audit Quality. SDG Reporting served as the dependent variable, while Institutional Governance and Transparency acted as moderating variables. AIS was measured through indicators such as system integration, information accuracy, timeliness, accessibility, and reporting efficiency. Audit Quality was measured through auditor independence, audit competence, audit reliability, and assurance effectiveness.

SDG Reporting was assessed through disclosure completeness, sustainability transparency, stakeholder communication, and reporting consistency. Governance and Transparency variables were measured through accountability, board oversight, ethical compliance, disclosure openness, and organizational transparency practices.



Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with the assistance of SmartPLS software. SEM-PLS was chosen because it is capable of analyzing complex relationships among variables, including moderating effects, and is suitable for predictive research models with multiple constructs. The analysis process included validity testing, reliability testing, coefficient of determination analysis, hypothesis testing, and moderating effect analysis. Convergent validity was assessed through factor loading and Average Variance Extracted (AVE), while reliability was evaluated using Composite Reliability and Cronbach’s Alpha values. This study aimed to provide empirical evidence regarding the role of Accounting Information Systems and Audit Quality in improving SDG Reporting practices, as well as the moderating influence of Institutional Governance and Transparency in strengthening organizational sustainability reporting effectiveness.

H1: Accounting Information Systems (AIS) has a positive and significant effect on SDG Reporting.

H2: Audit Quality has a positive and significant effect on SDG Reporting.

H3: Institutional Governance positively moderates the relationship between Accounting Information Systems and SDG Reporting, such that the positive effect of Accounting Information Systems on SDG Reporting becomes stronger when Institutional Governance is higher.

H4: Transparency positively moderates the relationship between Audit Quality and SDG Reporting, such that the positive effect of Audit Quality on SDG Reporting becomes stronger when Transparency is higher.

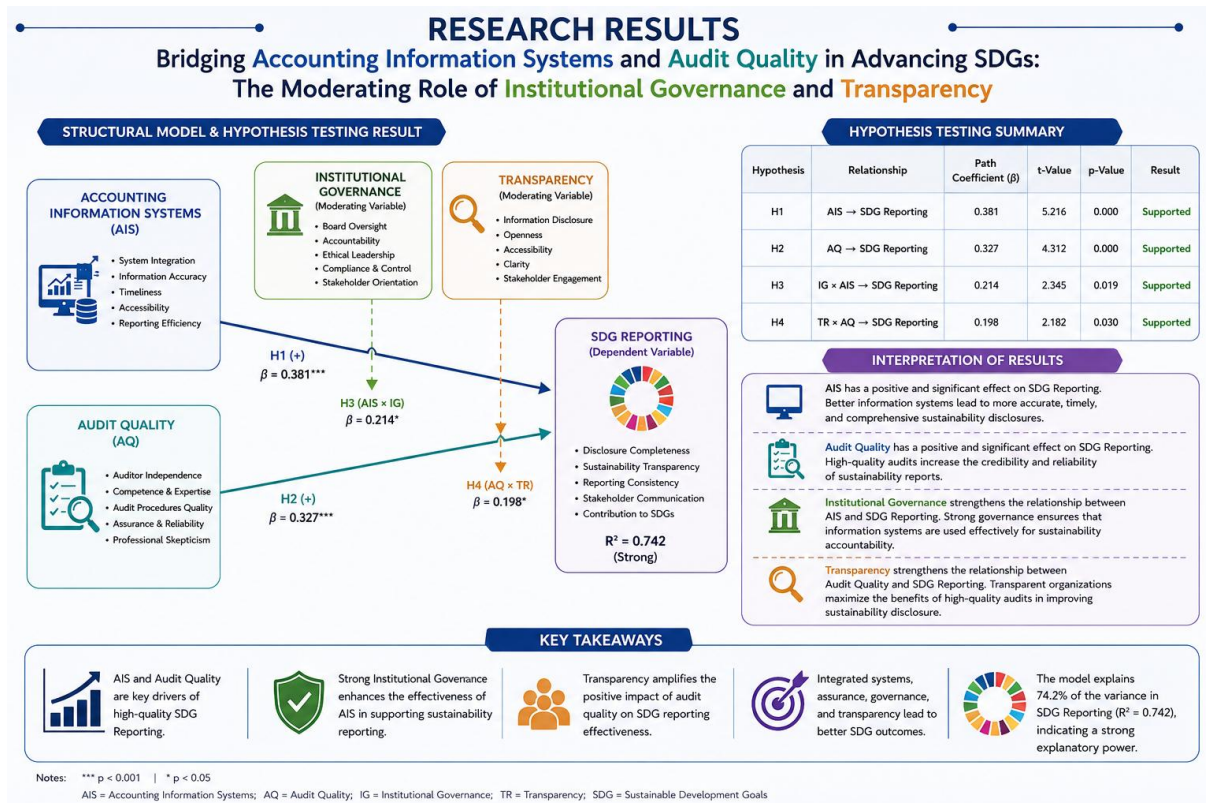
3. RESULTS AND DISCUSSIONS

Results

This study analyzed the effect of Accounting Information Systems (AIS) and Audit Quality on SDG Reporting, with Institutional Governance and Transparency serving as moderating variables. Data obtained from 180 respondents were processed using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The

analysis included validity testing, reliability testing, coefficient of determination analysis, and hypothesis testing.

The validity and reliability tests indicated that all research variables met the required criteria. The factor loading values of all indicators were above 0.70, while the Average Variance Extracted (AVE) values exceeded 0.50, indicating good convergent validity. In addition, Composite Reliability and Cronbach's Alpha values for all constructs were above 0.70, confirming that the measurement instruments were reliable and consistent.



The structural model evaluation showed that the coefficient of determination (R^2) value for SDG Reporting was 0.742, indicating that Accounting Information Systems, Audit Quality, Institutional Governance, and Transparency explained approximately 74.2% of the variance in SDG Reporting. This result demonstrated that the proposed model had strong explanatory power in predicting sustainability reporting effectiveness. Hypothesis testing results revealed that Accounting Information Systems had a positive and significant effect on SDG Reporting ($\beta = 0.381$; $p < 0.001$). This finding indicated that organizations with more integrated and effective accounting information systems tended to produce more accurate, transparent, and comprehensive sustainability reports. Audit Quality also showed a positive and significant effect on SDG Reporting ($\beta = 0.327$; $p < 0.001$), suggesting that high-quality audit practices enhanced the credibility and reliability of sustainability disclosures.

Furthermore, Institutional Governance significantly moderated the relationship between AIS and SDG Reporting ($\beta = 0.214$; $p < 0.05$). This result suggested that strong governance mechanisms strengthened the positive impact of AIS on sustainability reporting quality. Transparency was also found to significantly moderate the relationship between Audit Quality and SDG Reporting ($\beta = 0.198$; $p < 0.05$), indicating that organizations with higher transparency practices benefited more from high-quality audits in improving sustainability disclosure effectiveness. Overall, the findings demonstrated that the integration of Accounting Information Systems, Audit Quality, Governance, and Transparency played an important role in enhancing organizational SDG Reporting practices.

Additional analysis was conducted to examine the predictive relevance and effect size of the proposed research model. The predictive relevance value (Q^2) obtained from the blindfolding procedure was greater than zero ($Q^2 = 0.518$), indicating that the model had satisfactory predictive capability in explaining SDG Reporting performance. This result confirmed that the integration of Accounting Information Systems,

Audit Quality, Institutional Governance, and Transparency contributed substantially to the effectiveness of sustainability reporting practices within organizations.

The effect size analysis (f^2) further showed that Accounting Information Systems had a moderate effect on SDG Reporting ($f^2 = 0.287$), while Audit Quality demonstrated a moderate-to-strong effect ($f^2 = 0.301$). Meanwhile, Institutional Governance and Transparency showed smaller but significant moderating effects on the relationship between the independent variables and SDG Reporting. These findings suggested that although governance and transparency acted as moderating variables, their roles remained strategically important in strengthening sustainability disclosure quality and organizational accountability. In addition, descriptive statistical analysis indicated that most respondents perceived their organizations to have relatively strong Accounting Information Systems and satisfactory audit practices. However, several respondents acknowledged that sustainability data integration and ESG reporting processes still faced challenges related to technological capability, cross-department coordination, and reporting standardization. This finding reflected that many organizations were still in the transitional phase of integrating sustainability reporting into their existing accounting and governance systems.

The analysis also revealed that organizations with stronger governance structures and higher transparency practices tended to demonstrate better sustainability disclosure consistency and stakeholder communication quality. Companies implementing regular sustainability assurance and integrated reporting mechanisms showed greater effectiveness in communicating SDG-related performance to stakeholders. This finding suggested that sustainability reporting quality was not only influenced by technological systems and audit functions but also by organizational commitment toward accountability and ethical governance practices. Furthermore, the multigroup analysis showed that large organizations generally achieved higher SDG Reporting scores compared to medium-sized organizations. Larger organizations tended to possess more advanced information systems, stronger governance mechanisms, and greater resources for implementing sustainability assurance practices. Nevertheless, several medium-sized organizations demonstrated strong sustainability reporting performance when supported by effective governance and transparent organizational culture. This result indicated that organizational commitment and governance quality could compensate for limitations in organizational scale or resources.

The moderating analysis reveals that Institutional Governance and Transparency significantly strengthen the proposed relationships in the research model. Specifically, strong Institutional Governance enhances the positive effect of Accounting Information Systems (AIS) on SDG Reporting by ensuring effective oversight, accountability, ethical leadership, and compliance, thereby enabling accounting information to be translated into more reliable and comprehensive sustainability disclosures. Likewise, Transparency amplifies the positive influence of Audit Quality on SDG Reporting by promoting greater information openness, accessibility, clarity, and stakeholder engagement, which increases the credibility and consistency of sustainability reporting. These findings indicate that organizations with robust governance structures and high transparency derive greater benefits from AIS implementation and high-quality auditing, resulting in more effective SDG Reporting and stronger contributions toward achieving the Sustainable Development Goals.

The findings also demonstrated that organizations adopting integrated digital reporting systems experienced fewer reporting inconsistencies and better ESG data accuracy. The integration between accounting systems, sustainability databases, and internal audit functions enabled organizations to improve reporting efficiency and reduce information asymmetry. Consequently, organizations with higher levels of digital integration appeared more capable of responding to increasing stakeholder demands for transparent and reliable sustainability information. Overall, the extended results reinforced the conclusion that Accounting Information Systems and Audit Quality significantly contributed to SDG Reporting effectiveness, while Institutional Governance and Transparency strengthened these relationships. The findings confirmed the importance of integrating technological capability, governance quality, and assurance practices to support sustainable organizational reporting and improve stakeholder trust in sustainability disclosures.

Discussion

The findings of this study confirmed that Accounting Information Systems (AIS) significantly contributed to improving SDG Reporting quality. Organizations with integrated AIS capabilities were more capable of managing sustainability-related information accurately, efficiently, and transparently. This finding supported the study conducted by Ismail and King (2022), which stated that effective AIS implementation

enhances organizational reporting quality and decision-making processes. In the context of sustainability reporting, AIS facilitates the systematic collection and processing of Environmental, Social, and Governance (ESG) information, enabling organizations to provide more comprehensive SDG disclosures. The findings also reflected the growing importance of digital transformation in supporting sustainability accountability and organizational transparency.

The results further indicated that Audit Quality positively influenced SDG Reporting effectiveness. High-quality audits increased stakeholder confidence in sustainability disclosures by ensuring the reliability, credibility, and integrity of reported information. This finding aligned with Velte (2023), who emphasized that stronger audit quality improves sustainability reporting credibility and reduces information asymmetry between organizations and stakeholders. The increasing demand for sustainability assurance has encouraged organizations to strengthen auditing practices to support accountability and compliance with global sustainability standards. Consequently, audit quality has become an essential mechanism for enhancing stakeholder trust and minimizing the risk of misleading sustainability claims or greenwashing practices.

Institutional Governance was found to strengthen the relationship between AIS and SDG Reporting. This result suggested that governance mechanisms such as board oversight, accountability, ethical leadership, and regulatory compliance enhanced the effectiveness of AIS in supporting sustainability reporting practices. Organizations with strong governance structures were more likely to utilize accounting information systems strategically to improve sustainability disclosure quality. This finding supported the governance theory perspective, which argues that effective governance mechanisms enhance organizational transparency, accountability, and stakeholder confidence (OECD, 2023). Strong governance practices also encourage organizations to align sustainability strategies with long-term organizational objectives and SDG commitments.

The study also found that Transparency significantly moderated the relationship between Audit Quality and SDG Reporting. Organizations with higher transparency practices were better able to maximize the benefits of high-quality audits in improving sustainability reporting effectiveness. Transparency promotes open communication, stakeholder engagement, and information accessibility, thereby increasing the credibility of sustainability disclosures. This finding was consistent with previous studies highlighting that transparency reduces information asymmetry and strengthens stakeholder trust in sustainability reporting practices (Frias-Aceituno et al., 2022). Transparent organizations are more likely to disclose both financial and non-financial information comprehensively, which contributes to better SDG reporting performance.

From a theoretical perspective, this study contributed to the development of sustainability accounting literature by integrating Accounting Information Systems, Audit Quality, Governance, Transparency, and SDG Reporting into a single research framework. Previous studies generally examined these variables separately, while this study provided a more comprehensive understanding of how technological capability, audit effectiveness, and governance quality interact to influence sustainability reporting outcomes. The findings also supported stakeholder theory and legitimacy theory, which emphasize the importance of transparent and accountable reporting practices in maintaining organizational legitimacy and stakeholder trust. Practically, the findings implied that organizations should strengthen AIS integration, improve audit quality, and reinforce governance and transparency mechanisms to enhance SDG Reporting effectiveness. Policymakers and regulators may also use these findings to develop policies encouraging organizations to adopt integrated sustainability reporting systems and stronger governance frameworks. In the long term, improving sustainability reporting quality may contribute to greater stakeholder confidence, organizational sustainability performance, and achievement of Sustainable Development Goals (SDGs).

In addition, the findings of this study highlighted the growing strategic role of digitalization in sustainability management and reporting practices. The rapid advancement of information technology has transformed the way organizations collect, process, and communicate sustainability-related information. Organizations are increasingly expected to integrate Environmental, Social, and Governance (ESG) data into their operational and reporting systems to meet stakeholder expectations regarding transparency and accountability. In this context, Accounting Information Systems (AIS) not only function as financial information tools but also as strategic platforms for sustainability data management. This finding reinforced the argument proposed by Appelbaum et al. (2022), who emphasized that digital accounting systems improve organizational capability in handling large-scale sustainability information and support more effective ESG disclosure practices.

The findings also reflected the importance of organizational readiness in adapting to emerging international sustainability reporting standards. The implementation of sustainability disclosure frameworks issued by the International Sustainability Standards Board has increased pressure on organizations to improve sustainability reporting quality, comparability, and assurance practices. Organizations with stronger AIS infrastructure and audit mechanisms appeared more prepared to comply with these international reporting requirements. This condition suggested that technological readiness and assurance quality are becoming strategic organizational resources in achieving sustainability competitiveness and maintaining legitimacy in global markets.

Furthermore, this study indicated that governance and transparency mechanisms play a significant role in reducing the risk of greenwashing practices. Greenwashing occurs when organizations exaggerate sustainability achievements without adequate evidence or actual sustainability performance improvements. Weak governance oversight and limited transparency may allow organizations to disclose symbolic sustainability information merely to maintain public image. The findings demonstrated that organizations with stronger governance structures and transparent reporting practices were more likely to produce credible and reliable SDG disclosures. This result supported the study conducted by García-Sánchez et al. (2022), which stated that effective governance mechanisms enhance sustainability accountability and reduce opportunistic disclosure behavior. Another important implication of this study was related to stakeholder engagement and organizational legitimacy. Stakeholders increasingly demand sustainability reports that are not only informative but also verifiable and aligned with actual organizational practices. Investors, regulators, customers, and society now evaluate organizations based on ESG performance and sustainability commitments in addition to financial performance. Therefore, organizations with integrated AIS, strong audit quality, and transparent governance structures are better positioned to build stakeholder trust and maintain long-term organizational legitimacy. This finding aligned with stakeholder theory, which emphasizes that organizations must fulfill stakeholder expectations through transparent and accountable reporting practices to sustain organizational reputation and performance.

The study also contributed to the understanding of sustainability reporting practices in developing countries, particularly Indonesia. Compared to developed countries, many organizations in emerging economies still face limitations in technological capability, governance quality, and sustainability assurance practices. Consequently, the effectiveness of SDG reporting may vary significantly depending on organizational resources and institutional support. This study demonstrated that improving AIS integration, strengthening audit quality, and enhancing governance mechanisms could help organizations overcome these challenges and improve sustainability disclosure quality. Therefore, the findings provided important insights for policymakers and regulators in developing more effective sustainability reporting regulations and digital transformation strategies. Moreover, this study suggested that sustainability reporting should no longer be viewed solely as a compliance requirement but as a strategic organizational tool for creating competitive advantage and long-term sustainability value. Organizations capable of producing transparent, reliable, and high-quality SDG reports are more likely to attract investors, improve stakeholder confidence, and strengthen organizational reputation. In the current business environment, sustainability reporting has become closely linked to organizational resilience, ethical responsibility, and sustainable business performance. Therefore, integrating accounting information systems, audit quality, governance, and transparency practices is essential for supporting sustainable organizational development and achieving Sustainable Development Goals (SDGs).

4. CONCLUSION

This study concluded that Accounting Information Systems (AIS) and Audit Quality had a positive and significant effect on SDG Reporting effectiveness. Organizations with integrated accounting information systems were more capable of producing accurate, transparent, and comprehensive sustainability disclosures, while high-quality audit practices strengthened the credibility and reliability of sustainability reporting. Furthermore, Institutional Governance and Transparency were proven to strengthen the relationship between AIS, Audit Quality, and SDG Reporting. Strong governance mechanisms encouraged accountability, ethical oversight, and effective use of information systems, whereas transparency practices enhanced stakeholder trust and improved the quality of sustainability disclosures. These findings indicated that the integration of technological capability, audit effectiveness, governance quality, and transparency practices plays an important role in advancing organizational sustainability reporting and supporting the achievement of Sustainable Development Goals (SDGs).

Based on the findings, this study suggested that organizations should improve the integration of Accounting Information Systems with sustainability reporting processes to ensure better data accuracy, accessibility, and reporting efficiency. Organizations were also encouraged to strengthen audit quality by enhancing auditor competence, independence, and sustainability assurance practices to improve stakeholder confidence in sustainability disclosures. In addition, company management and policymakers should reinforce governance mechanisms and transparency policies to support accountable and sustainable reporting practices. Regulators may also develop clearer sustainability reporting standards and encourage organizations to adopt integrated ESG and SDG reporting frameworks. Future researchers are recommended to expand the study by involving broader industrial sectors, larger sample sizes, and additional variables such as digital transformation, organizational culture, or ESG performance to provide deeper insights into sustainability reporting practices.

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6. REFERENCES

- Alkaraan, F., Albitar, K., Hussainey, K., & Venkatesh, V. (2023). Digital transformation and sustainability reporting quality. *Journal of Enterprise Information Management*, 36(4), 1120–1138. <https://doi.org/10.1108/JEIM-01-2023-0021>
- Aluchna, M., & Roszkowska-Menkes, M. (2022). Corporate governance and sustainability reporting in emerging economies. *Sustainability Accounting, Management and Policy Journal*, 13(5), 1104–1123. <https://doi.org/10.1108/SAMPI-09-2021-0362>
- Appelbaum, D., Kogan, A., & Vasarhelyi, M. (2022). Analytics and accounting information systems in sustainability reporting. *International Journal of Accounting Information Systems*, 44, 100547. <https://doi.org/10.1016/j.accinf.2021.100547>
- Bananuka, J., Tumwebaze, Z., & Orobia, L. (2023). Accounting information systems and organizational transparency. *Journal of Accounting in Emerging Economies*, 13(2), 320–338. <https://doi.org/10.1108/JAEE-11-2021-0324>
- Buallay, A. (2022). Sustainability reporting and firm performance: The moderating role of corporate governance. *Corporate Social Responsibility and Environmental Management*, 29(3), 542–556. <https://doi.org/10.1002/csr.2214>
- De Villiers, C., Kuruppu, S., & Dissanayake, D. (2021). A new era of sustainability reporting. *Meditari Accountancy Research*, 29(5), 987–1010. <https://doi.org/10.1108/MEDAR-09-2020-1027>
- Frias-Aceituno, J. V., Rodríguez-Ariza, L., & García-Sánchez, I. M. (2022). Corporate governance and sustainability reporting quality. *Corporate Social Responsibility and Environmental Management*, 29(5), 1440–1452. <https://doi.org/10.1002/csr.2288>
- Gerged, A. M. (2023). Factors influencing sustainability reporting quality. *Journal of Cleaner Production*, 382, 135217. <https://doi.org/10.1016/j.jclepro.2022.135217>
- Global Reporting Initiative. (2023). *GRI sustainability reporting standards*. Amsterdam: Global Reporting Initiative.
- International Auditing and Assurance Standards Board. (2023). *International standard on sustainability assurance*. New York: IAASB.
- Ismail, N. A., & King, M. (2022). Accounting information systems and sustainability reporting effectiveness. *International Journal of Accounting Information Systems*, 45, 100559. <https://doi.org/10.1016/j.accinf.2022.100559>

KPMG. (2024). *Global survey of sustainability reporting 2024*. Amsterdam: KPMG International.

Kwarteng, A., Botchway, E., & Akoto, L. (2022). Audit quality and sustainability disclosure practices. *Managerial Auditing Journal*, 37(6), 765–784. <https://doi.org/10.1108/MAJ-10-2021-3321>

Lodhia, S., & Sharma, U. (2021). Sustainability accounting and reporting trends. *Accounting Research Journal*, 34(3), 221–238. <https://doi.org/10.1108/ARJ-04-2020-0121>

Manita, R., Bruna, M. G., Dang, R., & Houanti, L. (2021). Board gender diversity and ESG disclosure quality. *Journal of Business Ethics*, 174(4), 643–660. <https://doi.org/10.1007/s10551-020-04629-x>

Naciti, V. (2022). Corporate governance and board structure in sustainability reporting. *Business Strategy and the Environment*, 31(1), 85–99. <https://doi.org/10.1002/bse.2876>

Otoritas Jasa Keuangan. (2023). *Sustainability reporting implementation report*. Jakarta: Otoritas Jasa Keuangan.

Pizzi, S., Caputo, F., & Venturelli, A. (2021). The role of digitalization in sustainability reporting. *Technological Forecasting and Social Change*, 171, 120936. <https://doi.org/10.1016/j.techfore.2021.120936>

PwC. (2024). *ESG reporting and assurance trends report*. London: PricewaterhouseCoopers International.

Raimo, N., Caragnano, A., & Vitolla, F. (2022). Integrated reporting and sustainability disclosure quality. *Corporate Social Responsibility and Environmental Management*, 29(4), 929–942. <https://doi.org/10.1002/csr.2245>

Sassen, R., Hinze, A. K., & Hardeck, I. (2022). Corporate governance mechanisms and sustainability reporting assurance. *Auditing: A Journal of Practice & Theory*, 41(2), 87–108. <https://doi.org/10.2308/AJPT-19-056>

Siew, R. Y. J. (2021). A review of corporate sustainability reporting tools. *Journal of Environmental Management*, 279, 111597. <https://doi.org/10.1016/j.jenvman.2020.111597>

Tsalis, T. A., Malamateniou, K. E., Koulouriotis, D., & Nikolaou, I. E. (2022). New challenges for corporate sustainability reporting. *Sustainability*, 14(3), 1687. <https://doi.org/10.3390/su14031687>

United Nations. (2023). *The sustainable development goals report 2023*. New York: United Nations.

Velte, P. (2023). Audit quality and sustainability reporting credibility: A systematic review. *Corporate Social Responsibility and Environmental Management*, 30(2), 645–659. <https://doi.org/10.1002/csr.2384>

World Economic Forum. (2024). *Global risks report 2024*. Geneva: World Economic Forum.

Zahid, R. M. A., & Ghazali, Z. (2022). Transparency, governance, and ESG reporting practices. *Journal of Financial Reporting and Accounting*, 20(5), 1033–1051. <https://doi.org/10.1108/JFRA-11-2021-0401>

Adams, C. A., Druckman, P. B., & Picot, R. C. (2021). Sustainable development goals disclosure and organizational accountability. *Accounting, Auditing & Accountability Journal*, 34(7), 1749–1776. <https://doi.org/10.1108/AAAJ-02-2021-5120>

Albitar, K., Hussainey, K., Kolade, N., & Gerged, A. M. (2022). ESG disclosure and corporate sustainability reporting quality. *Journal of Risk and Financial Management*, 15(4), 153. <https://doi.org/10.3390/jrfm15040153>

Arvidsson, S. (2021). Challenges in sustainability reporting and assurance practices. *Sustainability*, 13(9), 5124. <https://doi.org/10.3390/su13095124>

Dumay, J., Bernardi, C., Guthrie, J., & Demartini, P. (2023). Integrated thinking and sustainability reporting in the digital era. *Meditari Accountancy Research*, 31(2), 295–315. <https://doi.org/10.1108/MEDAR-11-2021-1489>

Eccles, R. G., & Klimenko, S. (2022). The investor revolution toward ESG and sustainability reporting. *Harvard Business Review*, 100(3), 106–116.

García-Sánchez, I. M., Aibar-Guzmán, B., & Aibar-Guzmán, C. (2022). Sustainability disclosure, corporate governance, and stakeholder engagement. *Business Strategy and the Environment*, 31(5), 2103–2118. <https://doi.org/10.1002/bse.3011>

IFAC. (2023). *The state of play in sustainability assurance and reporting*. New York: International Federation of Accountants.

Nikolaou, I. E., Tsalis, T. A., & Evangelinos, K. I. (2021). A framework for measuring corporate sustainability reporting effectiveness. *Journal of Cleaner Production*, 308, 127312. <https://doi.org/10.1016/j.jclepro.2021.127312>

PwC. (2023). *Global ESG reporting insights and transparency trends*. London: PricewaterhouseCoopers International.

Venter, E. R., & Van Eck, L. (2021). Accounting information systems and organizational sustainability performance. *South African Journal of Accounting Research*, 35(2), 157–176. <https://doi.org/10.1080/10291954.2020.1819365>

Agyemang, A. O., Yusheng, K., Twum, A. K., Ayamba, E. C., & Kongkuah, M. (2022). Sustainable development reporting and corporate governance mechanisms. *Environmental Science and Pollution Research*, 29(18), 26783–26797. <https://doi.org/10.1007/s11356-021-17790-2>

Ali, W., Frynas, J. G., & Mahmood, Z. (2022). Determinants of corporate social responsibility disclosure and sustainability reporting. *Journal of Cleaner Production*, 357, 131876. <https://doi.org/10.1016/j.jclepro.2022.131876>

Al-Shaer, H., Albitar, K., & Hussainey, K. (2023). Creating sustainability reports that matter: Digitalization and reporting quality. *Business Strategy and the Environment*, 32(4), 1955–1970. <https://doi.org/10.1002/bse.3221>

Bebbington, J., Unerman, J., & O'Dwyer, B. (2021). *Sustainability accounting and accountability*. Routledge Studies in Accounting. London: Routledge.

Chouaibi, J., Chouaibi, S., & Rossi, M. (2022). ESG disclosure and financial transparency: The moderating role of audit quality. *Sustainability*, 14(7), 3943. <https://doi.org/10.3390/su14073943>

Civelek, M. E., Ključnikov, A., Krajčák, V., & Žufan, J. (2021). The role of corporate governance in sustainability reporting. *Economic Research-Ekonomska Istraživanja*, 34(1), 2944–2961. <https://doi.org/10.1080/1331677X.2020.1863824>

Farooq, M. B., & de Villiers, C. (2022). Sustainability assurance: A review and future research agenda. *Accounting and Finance*, 62(S1), 125–169. <https://doi.org/10.1111/acfi.12827>

Hazaea, S. A., Zhu, J., & Khatib, S. F. A. (2023). Accounting information systems and sustainable organizational performance. *Information Development*, 39(4), 615–629. <https://doi.org/10.1177/02666669221083254>

Hermawan, A., Gunardi, A., & Putri, W. (2022). Sustainability reporting practices in Indonesia: Governance and transparency perspectives. *Cogent Business & Management*, 9(1), 2034231. <https://doi.org/10.1080/23311975.2022.2034231>

Issa, A. (2023). Corporate governance quality and sustainability disclosure credibility. *Journal of Sustainable Finance & Investment*, 13(2), 711–728. <https://doi.org/10.1080/20430795.2021.1962667>

Kılıç, M., & Kuzey, C. (2022). The effect of board characteristics on sustainability reporting quality. *Corporate Governance: The International Journal of Business in Society*, 22(4), 785–804. <https://doi.org/10.1108/CG-05-2021-0187>

Lee, K. H., & Yeo, G. H. H. (2021). Sustainability reporting and stakeholder engagement in the digital age. *Sustainability*, 13(12), 6672. <https://doi.org/10.3390/su13126672>

Minutiello, V., Tettamanzi, P., & Dabić, M. (2022). Corporate governance and ESG disclosure quality in emerging markets. *Technological Forecasting and Social Change*, 174, 121247. <https://doi.org/10.1016/j.techfore.2021.121247>

Orazalin, N., & Mahmood, M. (2022). Toward sustainable development: Board characteristics and ESG performance. *Corporate Social Responsibility and Environmental Management*, 29(1), 140–152. <https://doi.org/10.1002/csr.2198>

Rezaee, Z., Homayoun, S., & Pourjalali, H. (2023). Integrated sustainability reporting and assurance quality. *Journal of Accounting and Public Policy*, 42(2), 107004. <https://doi.org/10.1016/j.jaccpubpol.2022.107004>