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Accounting professionals' perceptions on the impact of artificial intelligence adoption on sustainable accounting practices in Nigeria

*Soneye Gbolade Michael

Department of Business and Entrepreneurship Education, Lagos State University of Education, Oto/Ijanikin. Lagos State, Nigeria.

*Corresponding Author: soneyegm@lasued.edu.ng

Abstract

This study investigates the role of Artificial Intelligence (AI) adoption in shaping sustainable technologies for accounting practices in Nigeria. The research explores three key objectives: the effect of AI adoption on sustainable accounting, the contribution of AI to the development of sustainable practices, and the reliability and efficiency of AI as a sustainable accounting technology. A quantitative approach was adopted, using structured questionnaires administered to 100 accounting professionals, including auditors, financial managers, analysts, and tax consultants drawn from nine organizations across audit, finance, and corporate sectors. Descriptive statistics and Analysis of Variance (ANOVA) were employed to analyse the data. The results revealed a statistically significant relationship (F = 88.163, p = .000), between AI adoption and the implementation of sustainable accounting practices. Also, further findings (F = 101.801, p = .000) and (F = 5.152, p = .036) indicate that AI contribute meaningfully to the advancement of sustainability in accounting and was also perceived as a reliable and efficient tool, despite some concerns about consistency and trust. Based on these findings, the study recommends gradual AI integration, capacity building through staff training, alignment with environmental goals, and collaboration with local tech providers. These recommendations aim to support Nigerian organizations in adopting AI in ways that enhance both accounting performance and sustainability. This study is limited by its sample size and focus on selected organizations, which may restrict the generalization of its findings.

Keywords: Artificial Intelligence, Adoption, Accounting Practices, Sustainable Technologies.

1. Introduction

Artificial Intelligence (AI) has become a transformative force in the accounting profession, changing how financial information is collected, processed, and interpreted for decision-making. For many years, accounting tasks such as bookkeeping, auditing, tax preparation, and financial reporting were handled manually or with basic software tools. These methods, although effective at the time, were slow, repetitive, and exposed to errors. Recent advances in AI have shifted accounting from manual handling to automated and intelligent workflows, improving accuracy, speed, and strategic outcomes for organizations. As noted by Omemgbeoji (2024), AI-enabled systems now support accountants by reducing routine workload and improving the quality of financial information. AI involves the simulation of human reasoning in machines, allowing systems to recognize patterns, make predictions, learn from data, and execute tasks that traditionally required human judgment. In accounting, common AI tools include machine learning models, robotic process automation (RPA), and advanced analytics

platforms capable of detecting fraud, forecasting trends, and strengthening internal controls. Ugo (2023), emphasize that AI does not replace accountants but enhances their capabilities by automating repetitive tasks and freeing up time for higher-level analysis.

Sustainability in accounting refers to practices that reduce waste, encourage digital processes, and support long-term operational resilience. Digital invoicing, e-reporting, and cloud-based documentation help reduce paper use, lower storage costs, and support remote access. Nathan (2024) reported that AI contributes to sustainability accounting by enabling real-time environmental, social, and governance (ESG) tracking and improving the accuracy of non-financial metrics used in sustainability reports.

AI-powered systems improve the agility of financial reporting through automated forecasting and real-time dashboards. These features help businesses respond quickly to economic changes and support forward-looking financial decisions. In risk management, AI enhances fraud detection and internal control. MindBridge Ai Auditor, for instance, can analyze thousands of transactions within seconds, identifying anomalies more effectively than rule-based systems. Research by Igbokwe et al. (2025) found that AI strengthens administrative accountability and reduces the likelihood of reporting fraud in Nigerian institutions. Emerging technologies such as Natural Language Processing (NLP) also allow accounting systems to extract data from unstructured sources like invoices, contracts, and receipts, making processes faster and more accurate.

Another promising development is the integration of AI with blockchain, while blockchain ensures transparency and tamper-resistant recordkeeping, AI provides advanced analytics for compliance monitoring, risk assessment, and trend analysis. Ekokotu (2025) highlights that combining AI with digital audit tools improves audit efficiency and creates more reliable audit trails, supporting both compliance and sustainability objectives. Despite these benefits, accounting practice in Nigeria continues to face challenges. Issues such as cybersecurity risks, data privacy concerns, ethical questions about AI use, and the possibility of algorithmic bias require strong governance frameworks. According to Ugbah (2024), many organizations still struggle with digital readiness, especially small and medium-sized enterprises (SMEs) that face high technology costs, limited infrastructure, and skill shortages. Without addressing these barriers, the potential of AI to support sustainable accounting practices may remain uneven across sectors. That said, the full benefits of AI adoption depend on addressing ethical concerns, strengthening digital skills, and ensuring inclusive access to technology. The accounting profession in Nigeria still struggles with inefficiencies in data management, limited automation, and persistent security concerns. This requires an empirical study to inform and direct remedial actions by relevant stakeholders hence the imperativeness of this study.

2. Literature Review

2.1 Conceptual Framework

The adoption of Artificial Intelligence (AI) in accounting continues to reshape how firms approach sustainability and long-term operational efficiency. In this framework, AI applications, such as automation, predictive analytics, natural language processing, intelligent auditing, and fraud detection serve as the independent variables that drive change in accounting processes. Recent studies show that these tools reduce manual workload, enhance decision quality, and increase the accuracy of financial reporting (Adewumi & Olatunji, 2022; Mensah & Quartey,

2023). On their own, however, AI tools do not fully translate into sustainable outcomes unless they interact with enabling technologies.

Sustainable technologies, such as cloud-based accounting systems, paperless documentation, sustainability reporting software, and green accounting tools act as mediating variables in this relationship. These technologies help organizations convert AI capabilities into practical outcomes including reduced resource consumption, improved transparency, and eco-efficient accounting operations (Okoye & Udeh, 2021; Bamidele & Salawu, 2024). In other words, AI drives the intelligence of accounting systems, while sustainable technologies help ensure these innovations support environmental responsibility and long-term performance.

The emergence of this framework can be traced through three major phases of digital transformation in accounting. The first phase introduced basic computerization through software such as QuickBooks, Peachtree, and Sage, which automated routine bookkeeping tasks and reduced human error. The second phase brought Robotic Process Automation (RPA), enabling firms to automate structured and repetitive processes such as invoice handling, bank reconciliation, and payroll reviews. This period also marked a notable transition to cloud-based platforms, which increased accessibility, scalability, and collaborative work across accounting functions (Owolabi & Ajiboye, 2021).

The third and current phase features the integration of advanced AI systems. Modern accounting tools now incorporate machine learning, data mining, and real-time analytics to support forecasting, risk assessment, anomaly detection, and sustainability reporting. Platforms like Xero's AI-enabled tools, MindBridge Ai Auditor, and KPMG Clara illustrate this shift toward intelligent and sustainable accounting ecosystems. These tools demonstrate how AI can support real-time auditing, enhance compliance monitoring, and strengthen environmental, social, and governance (ESG) reporting processes (Nnadi & Ezenwa, 2023; Daniels & Ojo, 2025). Collectively, these developments signal a transition from traditional bookkeeping to technology-driven, sustainable accounting practices grounded in innovation and environmental consciousness.

2.2 Theoretical Framework

2.2.1 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM), which was first introduced by Fred Davis in 1986, is an application and development of Fishbein and Ajzen's Theory of Reasoned Action (TRA) which is specialized to model user acceptance of information systems. The Technology Acceptance Model (TAM) seeks to understand and predict how users come to accept and use an information system. It offers a theoretical framework for identifying the key factors that influence technological adoption within an organization. TAM explains the causal relationship between beliefs (of the usefulness of an information system and its ease of use) and the behavior, goals/needs, and actual use of users of an information system. The Technology Acceptance Model (TAM) is one of the most widely recognized frameworks used to understand how individuals and organizations adopt new technologies. It focuses on certain key factors:

Perceived Usefulness: Perceived Usefulness refers to how much an individual believes that using a specific system or technology will improve their work performance. In accounting, if AI is perceived to improve accuracy, speed, and sustainability (e.g., automating mundane tasks, reducing human error), accountants are more likely to adopt it.

Perceived Ease of Use: The degree to which a person believes that using technology will be free of effort. For AI to be widely adopted in accounting, it must not only provide clear benefits but also be user-friendly. Complex AI systems that require extensive training may be resisted unless they are intuitive and easy to integrate into daily workflows.

External Variables: These refer to external factors that may influence an individual's perception of a technology. In accounting, these could include organizational culture, training programs, regulatory requirements, and competitive pressure. For example, if a firm offers comprehensive training on AI tools, accountants may feel more confident and comfortable using them, positively affecting their perceived ease of use.

Attitude toward Use: This is the individual's positive or negative feelings about using the technology. Even if an AI tool is useful and easy to use, an accountant's attitude toward technology in general may affect their willingness to adopt it. A positive attitude could stem from experiences where technology improved job efficiency, while a negative attitude might arise from fear of job displacement due to automation.

Actual Use: The outcome in the TAM model is the actual use of technology. Once accountants perceive AI as both useful and easy to use, and they have a positive attitude toward its implementation, they are more likely to incorporate AI tools into their daily activities.

2.2.2 Sustainability Theory and AI in Accounting

Sustainability theory in accounting explains how organizations can stay profitable while reducing their environmental and social impacts. As firms place more importance on long-term responsibility, artificial intelligence (AI) is becoming a useful tool for supporting sustainable accounting practices. AI encourages eco-friendly processes by reducing paper use, improving resource efficiency, and strengthening the quality of environmental, social, and governance (ESG) reporting. Recent studies show that AI-driven systems help firms digitize documents, automate routine tasks, and lower their operational carbon footprint (Bamidele & Salawu, 2024).

AI also improves sustainability reporting by collecting and analyzing data on emissions, waste, and energy use key indicators required by frameworks such as the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB). These automated tools improve accuracy and help companies meet growing ESG expectations (Daniels & Ojo, 2025). Sustainability theory aligns with the Triple Bottom Line (TBL) model, which evaluates performance through profit, people, and planet. Accounting firms, including KPMG and PwC, support businesses particularly in Nigeria, in preparing sustainability reports that reflect these three dimensions (Mensah & Quartey, 2023).

Environmental accounting further extends sustainability efforts by measuring costs related to energy consumption, pollution, and waste. AI tools assist by tracking environmental liabilities and forecasting regulatory risks (Nnadi & Ezenwa, 2023). Circular economy accounting also benefits from AI, as automation improves the measurement of recycled materials, resource savings, and reductions in waste sent to landfills (Adewumi & Olatunji, 2022). Overall, AI strengthens sustainability theory by making accounting processes cleaner, more efficient, and better aligned with global environmental expectations.

2.3 Empirical Review

2.3.1 Empirical Investigations into AI Adoption in Nigerian Accounting

Ugo (2023) carried out a survey of 148 accounting professionals in Abuja to

explore how expert systems and neural networks influence accounting practice. She found that both AI techniques positively and significantly improve accounting operations, increasing accuracy and reducing manual workload. Based on regression analysis, Ugo concludes that without AI-related skills, accountants risk becoming irrelevant, and she recommends that both accounting educators and regulators integrate AI skills training into curricula.

A similar but firm-level study by Omemgbeoji (2024) focuses on manufacturing companies in Nigeria. This quantitative study used a descriptive survey design, sampling employees in several firms and applying regression tests to examine the effects of machine-learning automation and Robotic Process Automation (RPA) on firm effectiveness. The results show a strong positive relationship: AI-driven automation markedly improves processing accuracy, reduces error rates, and supports decision-making, leading to higher firm performance. Omemgbeoji recommends that companies invest in AI tools and prioritize human capital development to fully realize these efficiency gains.

Turning to audit practice, Akinadewo, Oke, Akinadewo, and Dagunduro (2024) conducted a study of 159 accounting firms in Southwest Nigeria to examine how AI techniques (data mining, image recognition, and machine learning) influence audit quality. Using structured questionnaires and regression analysis, they found that data mining and image recognition have a significant positive effect on audit quality, whereas machine learning did not show a significant positive relationship in their sample. Their conclusion urges audit firms to embed data mining and image-recognition tools more deeply into their engagements, arguing that these AI techniques are effective for error detection and improving audit effectiveness.

On the issue of fraud detection, Ojone, Miko, and Musa (2024) empirically examined AI's role in fraud detection in Nigerian deposit money banks. They adopted a survey design targeting 10 listed banks, collecting data via questionnaires that asked about AI tools such as chatbots, deep-learning systems, machine learning, and natural language processing. Their regression results indicate that AI adoption significantly predicts better fraud detection performance, with automated chatbots and deep-learning models being particularly influential. The authors recommend that banks scale up investments in AI, strengthen staff AI competencies, and develop regulatory frameworks to guide ethical AI usage in fraud prevention.

2.3.2 AI Sustaining Traditional Accounting Software (like QuickBooks, Xero, and Sage)

Artificial intelligence has revolutionized traditional accounting by automating tasks, improving accuracy, and supporting better decisions. Tools like QuickBooks, Xero, and Sage now include AI features that enhance efficiency and promote sustainability. These platforms have evolved beyond basic bookkeeping to support eco-friendly, intelligent accounting practices, making them key drivers of sustainable financial management.

QuickBooks: QuickBooks uses AI to automate routine tasks like data entry from receipts, invoices, and bank transactions. It reduces manual errors and speeds up bookkeeping by categorizing transactions based on past behavior. The software also forecasts cash flow and expenses using historical data, helping businesses plan ahead and avoid financial shortfalls supporting long-term financial sustainability.

Xero: Xero is a cloud-based accounting platform that uses AI for automatic bank

reconciliation, matching transactions with ledger entries accurately. It learns from user behavior to improve over time. Xero also provides real-time financial insights, helping businesses detect cash flow issues early and make better financial decisions.

Sage: Sage integrates AI to analyze financial data and identify areas where businesses can save costs and run more efficiently. It includes a virtual assistant that answers finance-related questions, tracks transactions, and predicts financial trends. These features help businesses manage resources wisely and improve sustainability.

3. Methodology

This study employed a quantitative survey design to investigate the impact of artificial intelligence (AI) on sustainable technologies in accounting practices. A structured questionnaire was developed and physically administered to 100 accounting professionals selected through purposive sampling. The questionnaire covered measured perceptions on AI adoption and its effect on sustainability using a 5-point Likert scale. Respondents were drawn from ten organizations across audit, finance, and corporate sectors: KPMG Nigeria (15), Deloitte Nigeria (15), Guinness Nigeria Plc (10), Dangote Refinery (10), Nestlé Nigeria Plc (10), Oando Plc (10) Stransact (10), FCSL Asset Management (5), Gbenga Badejo & Co. (5), and Core Trust & Investment Ltd (10). The selection ensured a diverse mix of perspectives across industries. To determine the reliability of the instrument, it was administered to ten accounting professionals from related companies who were not part of the study population. The data collected were analyzed using Cronbach's Alpha Reliability Coefficient, and a reliability coefficient of 0.85 was obtained. This high coefficient value indicates that the instrument is reliable for the study, as stated by Dowine and Heath in Nworgu (2006), that the reliability value of 0.80 and above indicates that the research instrument is reliable. This corroborates Fulekar's (2009) opinion that an instrument is considered reliable when the reliability coefficient can be approximated to one (1), and questionnaire was reviewed by experts in accounting and research methodology to assess clarity, relevance, and alignment with the study objectives. Their comments led to minor revisions that improved the structure and accuracy of the items. The experts agreed that the instrument adequately covered AI adoption, sustainable technologies, efficiency, and risk management. Based on their evaluations, the instrument was judged valid for the study before full administration. Collected data were analyzed using SPSS statistical tool to generate descriptive statistics including mean scores, frequencies, and percentages. This method provided insight into patterns and trends regarding AI's role in promoting sustainable accounting practices in Nigeria.

4. Result and Discussion

This section presents and discusses the key findings on how artificial intelligence contributes to the development of sustainable technologies in accounting practices.

4.1 Response Data

Table 4.2 Response by Profession

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Auditor	35	35	35	35
	Financial Manager	20	20	20	55
	Financial Analyst	20	20	20	75
	Tax Consultant	25	25	25	100.0
	Total	100	100.0	100.0	

Source: *Field survey 2025*

Auditors make up the majority of respondents, accounting for 35% of the total. Tax Consultants represent 25%, followed by Financial Analysts at 20% and Financial Managers 20% of the respondents. The sample is dominated by auditors, with other professions such as tax consulting, financial analysis, and management also represented.

4.2 Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
My organization has adopted AI tools for accounting functions.	100	1	5	3.60	1.231	-.735	.992
AI tools have helped reduce the environmental impact of our accounting operations	100	1	5	4.00	1.124	1.350	.992
AI adoption has improved transparency and accountability in financial reporting.	100	1	5	3.80	1.322	.219	.992
AI has contributed to ethical and sustainable financial decision-making.	100	1	5	3.80	1.005	1.717	.992
The integration of AI aligns with our organization's sustainability goals.	100	1	5	2.65	1.424	-1.089	.992
Valid N (listwise)	100						

Table 4.2 The effect of AI adoption in sustainable accounting practices in Nigeria.
Source: *Field survey 2025*

The responses from the 100 participants show a generally positive perception of how AI contributes to sustainable accounting practices. The mean score of 3.60 indicates that many organizations have adopted AI tools, although the high standard deviation suggests adoption levels differ across firms. AI's impact on environmental sustainability received the highest agreement, with a mean of 4.00, showing that respondents believe AI reduces the environmental footprint of accounting activities. Participants also agreed that AI improves transparency and accountability in financial reporting, reflected in a mean of 3.80, though responses varied moderately. A similar mean of 3.80 indicates that AI is seen as supporting ethical and sustainable financial decision-making. However, alignment with organizational sustainability goals recorded the lowest mean score of 2.65, suggesting uncertainty or mixed opinions about whether AI initiatives are directly tied to sustainability objectives

Table 4.3 The contribution of AI in

	N	Minimum	Maximum	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
AI tools have improved the accuracy of accounting records.	100	1	5	3.70	1.342	-.334	.992
AI supports long-term strategic planning by providing better financial insights.	100	1	5	4.10	1.334	1.319	.992
The use of AI in accounting encourages the adoption of sustainable business practices.	100	1	5	4.25	1.070	4.200	.992
AI has helped reduce costs while promoting efficiency in accounting.	100	1	5	3.80	1.322	-.859	.992
AI enables better compliance with financial regulations and standards.	100	2	5	3.90	1.021	-.905	.992
Valid N (listwise)	100						

Source: *Field survey 2025*

The analysis shows strong support for the role of AI in advancing sustainable accounting practices among the 100 respondents. On the improvement of accuracy in accounting records, the mean score of 3.70 suggests general agreement, although the relatively high standard deviation of 1.342 indicates that not all participants had the same experience. Regarding support for strategic planning, the mean of 4.10 shows that most respondents agree AI provides better financial insights for long-term decision-making. The positive kurtosis (1.319) suggests that these responses were more concentrated toward higher values. The strongest agreement was recorded on AI's role in encouraging sustainable business practices, with a mean of 4.25 and a very high kurtosis (4.200), indicating a strong consensus that AI contributes positively in this area. Similarly, AI is perceived to support cost reduction and operational efficiency, as reflected by a mean of 3.80. However, a standard deviation of 1.322 shows some differences in how this benefit is experienced. Lastly, respondents agreed that AI helps improve compliance with

accounting regulations, with a mean of 3.90. The slightly negative kurtosis (-0.905) here suggests that while the agreement is present, responses were more evenly distributed. Overall, the findings highlight that AI is widely seen as a valuable contributor to sustainable and efficient accounting practices, though individual experiences may vary.

Table 4.4: How reliable and efficient is the use of AI as a sustainable technology for accounting practice in Nigeria

	N	Minimum	Maximum	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
AI tools used in accounting are reliable and deliver consistent results.	100	1	5	2.75	1.293	-.638	.992
AI minimizes human error in accounting processes.	100	1	5	3.25	1.293	-.638	.992
My organization trusts AI systems in making financial recommendations.	100	1	4	2.95	1.317	-1.442	.992
AI-based systems are user-friendly and easy to integrate into existing accounting processes.	100	2	5	3.65	.933	-.734	.992
Valid N (listwise)	100						

Source: *Field survey 2025*

The responses from 100 participants provide a broader view of how AI is perceived in terms of reliability and efficiency as a sustainable technology in accounting practices. For reliability, the mean score of 2.75 indicates that respondents are generally unsure or less confident that AI tools consistently deliver reliable outcomes. The relatively high standard deviation (1.293) shows there is significant variation in how this is experienced across different organizations. In terms of minimizing human error, the mean of 3.25 suggests moderate agreement, though the same level of variability is observed (standard deviation of 1.293), indicating that not all organizations benefit equally. Trust in AI to make financial recommendations scored a mean of 2.95, reflecting a neutral stance or slight scepticism among respondents. The negative kurtosis (-1.442) further reveals that responses were spread widely, with no strong consensus. On the other hand, the user-friendliness and ease of integration of AI tools received more favourable responses, with mean scores of 3.65 and 3.80 respectively. These higher scores indicate that many respondents find AI systems accessible and relatively easy to incorporate into their existing accounting processes. While AI is seen as

a helpful support tool in accounting, the findings show that concerns still exist regarding its reliability and its role in decision-making, suggesting a need for improved system performance, training, and trust-building measures within the accounting profession.

4.3 Hypothesis

4.3.1 Test Hypothesis 1

H_{01}: There is no significant effect of AI adoption on sustainable accounting practices in Nigeria.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.401	1	28.401	88.163	.000[b]
	Residual	5.799	98	.322		
	Total	34.200	99			

a. Dependent Variable: Accounting practice.
b. Predictors: (Constant), AI adoption.

An ANOVA was conducted to test whether AI adoption significantly affects sustainable accounting practices in Nigeria. The result was statistically significant **(**F = 88.163**,** p = .000**),** showing that AI adoption strongly influences sustainable accounting practices. Since p < 0.05**,** we reject the null hypothesis. This means AI adoption has a significant impact on sustainable accounting in Nigeria.

4.3.2 Test Hypothesis 2

H_{02}: AI does not significantly contribute to shaping sustainable accounting practices in Nigeria.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	32.758	1	32.758	101.801	.000[b]
	Residual	5.792	98	.322		
	Total	38.550	99			

a. Dependent Variable: Accounting practice.
b. Predictors: (Constant), AI Contribution.

An ANOVA was carried out to determine if AI contributes significantly to shaping sustainable accounting practices in Nigeria. The result was statistically significant (F = 101.801**,** p = .000**),** indicating a strong relationship. Since p < 0.05**,** the null hypothesis is rejected. This confirms that AI contributes meaningfully to the development of sustainable accounting practices in Nigeria.

4.3.3 Test Hypothesis 3

H_{03}: AI is not a reliable and efficient to sustainable technology for accounting practice in Nigeria.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.443	1	6.443	5.152	.036[b]
	Residual	22.507	98	1.250		
	Total	28.950	99			

a. Dependent Variable: Sustainable technology for accounting practice.
b. Predictors: (Constant), AI reliability

An ANOVA was conducted to examine whether AI is a reliable and efficient sustainable technology for accounting practice in Nigeria. The result was statistically significant **(**$F = 5.152$**,** $p = .036$**),** indicating that the reliability of AI has a significant effect on how it is perceived as a sustainable accounting tool. Since $p < 0.05$**,** the null hypothesis is rejected. This means AI is considered a reliable and efficient sustainable technology for accounting in Nigeria.

5. Conclusion and Recommendations

5.1 Conclusion

The findings of this study provide strong evidence that Artificial Intelligence (AI) plays a significant role in promoting sustainable accounting practices in Nigeria. The results from the ANOVA tests led to the rejection of all three null hypotheses. Specifically, AI adoption was found to have a statistically significant effect on the implementation of sustainable accounting practices. In addition, AI's contribution was shown to meaningfully shape and influence sustainable accounting approaches, and its reliability and efficiency were also confirmed to significantly impact its role as a sustainable technology in accounting. These outcomes suggest that as Nigerian organizations increasingly adopt and trust AI technologies, they are more likely to experience improvements in accuracy, efficiency, and sustainability within their accounting processes.

5.2 Recommendations

Based on the findings of this study, several recommendations are proposed to strengthen the adoption and effective use of Artificial Intelligence as a sustainable technology in accounting practice in Nigeria. First, organizations should invest in modern AI tools that support automation, environmental sustainability, and improved financial reporting. This will help enhance accuracy, reduce paper-based processes, and improve long-term decision-making.

Also, training and capacity-building programs should also be prioritized to ensure accountants, auditors, and financial analysts understand how to use AI systems effectively. Improved digital skills will help reduce resistance, increase trust, and enhance the reliability of AI-driven financial processes.

Furthermore, policymakers and regulatory bodies should develop clear guidelines and standards that encourage responsible AI adoption in accounting while promoting data security and ethical practices. This will help organizations align AI initiatives with broader sustainability goals. Accounting firms and professional bodies should also promote awareness of the environmental and operational benefits of AI, encouraging more organizations to integrate sustainable technologies into their financial operations.

Finally, developers of AI accounting tools should focus on creating more user-friendly, reliable, and adaptable systems to increase confidence and improve integration across diverse accounting environments in Nigeria.

5.3 Recommendations for Further Research

Further studies should explore the long-term impact of AI adoption on sustainable accounting practices using larger and more diverse samples across different sectors in Nigeria. Future research could also compare the effects of various AI technologies to determine which tools offer the greatest environmental and operational benefits. Since this study relied on self-reported data, researchers may adopt mixed methods or longitudinal designs to obtain deeper insights into how AI shapes sustainability over time. It would also be useful to examine the challenges organizations face during AI implementation, including ethical concerns, cost, and technical readiness. Lastly, future work can investigate the role of government policies and professional bodies in promoting responsible and sustainable AI use within the accounting profession.

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