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Influence of Artificial Intelligence (AI) Integration on Financial Reporting Quality – the United States and African Business Ecosystem in Focus

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Abstract
Evolution of Artificial Intelligence (AI) marks a paradigm shift in the way organizations generate, analyze, and communicate financial reports to the relevant stakeholders. It therefore remains unclear whether the integration of AI-driven technology has an impact on the quality of financial reports in the United States and Africa using Nigeria as a proxy for Africa. The current study, therefore, investigated the Influence of Artificial Intelligence integration on financial reporting quality. Online survey questionnaire was administered among 170 chartered accountants/certified public accountants through their WhatsApp platform. The online survey questionnaires employed a 5-point Likert scale, ranging from 1-Strongly Disagreed (SD), 2-Disagreed (D), 3-Undecided (U), 4-Agreed (A), to 5 Strongly Agreed (SA). A response of 165 was harvested from the survey, which constituted a response rate of 97% and was considered valid for a study of this nature. After removing 5 outliers based on incomplete responses to the overall questionnaire items, 160 responses were ultimately used and analyzed for data validation through ANOVA. The study's finding was documented with the F-test result which has a value of 642.162 with a p-value of 0.000<0.05. This means that the overall regression results show that the independent variable - AI-powered technology integration, has significant influence on the dependent variable - financial reporting quality in the United States of America and Nigeria. The study therefore concluded that AI-powered technology has significant influence on financial reporting quality by enhancing its accuracy, reliability, tracking of errors and frauds, timely and efficient delivery of financial reports, categorization of transactions, mitigation of potential risks, elimination of information asymmetry, and lastly promotes thematic presentation of modern-day financial reports in the United States of America and Africa. AI-powered technology is therefore recommended for massive deployment in the preparation and presentation of financial reports in order to enjoy the inherent benefits of AI-driven technology in financial reporting.
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1.0 Introduction

In swift response to the phenomenal innovation in technology occasioned by the advent of Artificial Intelligence (AI) driven tools across all aspects of life, accounting scholars, researchers, and professionals are not lagging in taking the bull by the horns. Accounting practitioners are therefore determined to key into the new realm of technological innovation to enhance operations and restructure their business models, ensuring they are competitively ahead of their peers and drive sustainable development within the industry (Syed et al., 2020). The trending developments in deep learning (DL), machine learning (ML), and artificial intelligence (AI) across diverse fields of study have created unanswered questions and puzzles among scholars, practitioners, and policymakers on whether the evolution in innovation will herald a paradigm shift globally. There is no doubt that AI is changing our ways of doing things. Since over 48 percent of businesses have globally switched over to this evolutionary innovation, the necessity for the accounting profession to follow suit becomes imperative, especially when it is generally believed that accounting is the language of business. The exponential growth of AI-driven technology is revolutionizing various industries and sectors, thereby, expanding its applications and capabilities at an unprecedented pace. Recognizing the potential of AI technology and embracing its transformative power in the field is essential for accounting and finance leaders to remain competitive in the digital age (Duong, 2024).

Adopting AI technology has the potential to cause business disruption across the board in most sectors (Baker, 2023). However, Corporations that are the early adopters of AI are expected to gain a competitive edge over their rivals. It is therefore believed that integrating AI in the accounting sector may potentially be driven by their level of readiness, which involves acquiring necessary skillsets and relevant resources to facilitate innovation preparedness to apply such a new technology so as to optimize the inherent associated benefits.

However, even though AI is still in its infancy and initial stage of experimentation, interestingly, the technology is making tremendous progress in every facet of life. The steady developments, therefore, have the possibility of bringing significant growth to the global economy. Although Baker (2023) documented that its global adoption has the potential for huge disruption in most industries.

Bin-Nashwan et al. (2025) opined that the accounting landscape is experiencing a paradigm shift essentially predicated on the integration of AI with the potential capability of revolutionizing some vital areas of the accounting domain, such as information transparency, auditing, and financial reporting. According to Seethamraju & Hecimovic (2023), IA possesses the capability to radically enhance decision-making processes by automating difficult and complex processes through the analysis of large datasets with unmatched speed and accuracy, and with insightful results. Existing studies believe that AI algorithms ensure regulatory compliance, streamline data aggregation, and lower human errors in financial reporting.

For several decades, one of the major challenges confronting the accounting profession, especially financial reporting, is information asymmetry. This challenge has been seen as a consistent issue causing a feud between the managers and their stakeholders. It therefore portends a critical challenge to efficient market hypothesis, which continuously leads to regulatory scrutiny, suboptimality in decision making, erosion of trust, and lack of confidence in the people entrusted with the organization's resources (Ozili, 2021). There is, however, growing concern among professionals, scholars, and researchers that AI-powered technologies may break the perceived age-long dichotomy in unequal information between the managers and other stakeholders. AI algorithms are designed to assess a large number of over 3 trillion data points globally in a second. It therefore offers concise, relevant, dependable, comparable, timely, and easily assessable financial data, which automatically results in accurate financial reporting, thereby enhancing the quality of financial reports. With its inherent supersonic mechanisms, AI has the capability of mitigating information asymmetry, resulting in an efficient information hypothesis in the capital market, thereby providing an equal playing ground for regulators, investors, and relevant stakeholders. However, Suleiman & Yahaya (2023) contend that there is no certainty or assurance that integration of AI-powered technology in accounting domain will be able to achieve this articulated objective since AI technology is still at the stage of evolutionary infancy. It therefore remains ambiguous whether the adoption of AI technologies in financial reporting will enhance its quality.

1.1 Research Objective

The broad objective of this study is to investigate Integration of Hypersonic Technology in Business ecosystems: Influence of Artificial Intelligence (AI) on Financial Reporting Quality, while the broad objective will be achieved with the specific objective stated below:

i. To examine whether AI-powered technology integration has a significant influence on financial reporting quality in the United States of America and Africa.

1.2 Research Hypothesis

The study hypothesis was stated in null form

i. Hoi: AI-powered technology integration does not significantly influence financial reporting quality in the United States of America and Africa.

2. Literature Review

2.1 Conceptual Clarifications

2.1.1 Functionality of AI-Powered Technology in the Accounting Domain

According to Jejeniwa, Mhlongo & Jejeniwa (2024), AI is said to have become progressively entrenched in the accounting space as it introduces a great reconfiguration of the dynamics of financial reporting. There is no gainsaying that, as AI technology has become adept at accounting practices, the transformative role of AI has the

capability of ensuring timely and accurate financial reporting. Integrating AI technology in accounting practices, therefore, implies complete computerization of hitherto existing traditional routine tasks. Carrying out this involves automating various accounting domains, such as data entry, transaction categorization, journal entries, financial report generation, and reconciling any potential discrepancies. Abdallah and Salah (2024) opine that adopting AI in core accounting domains epitomizes a complete paradigm shift by streamlining business operations and eliminating human errors, resulting in greater completeness and accuracy. Artificial Intelligence-induced technologies, especially Machine Learning (ML) algorithms, do extremely well in automating traditional manual data entry tasks. Jejelaye et al. (2024) position that the algorithms can promptly and accurately gather data from various sources, thereby eradicating the need for manual data handling that is commonly susceptible to errors. It not only removes inefficiency in terms of time usage but also reduces the probability of errors associated with the manual data input method. Studies have shown that the real-time nature of AI-driven reconciliation ensures that discrepancies are swiftly identified, allowing for timely corrective actions. Little wonder that Himeur et al. (2023) believe that it has huge implications for financial reporting accuracy and regulatory compliance, and also reduces the risks associated with traditional accounting records. For instance, the conventional bookkeeping process, ranging from transaction categorization to producing financial reports, naturally requires meticulous manual effort. Adopting AI technology has the ability to automatically synchronize these transactions, thereby introducing efficiency and accuracy into core accounting operations.

Jejelaye et al, (2024), therefore, position that machine learning algorithms stand out in grouping transactions by learning from historical data and patterns. ML algorithms can automatically assign entries to appropriate accounts, eliminating the manual effort required for the classification of accounting transactions. ML algorithms' capability to adjust and learn from changing configurations ensures that categorizations are kept accurate even in the face of evolving transaction dynamics. Automating transaction categorization through ML algorithms not only facilitates the bookkeeping process but also has the capability of reducing the probability of transaction misclassification, which commonly characterizes the inadvertent mistakes in the traditional manual system. Rane (2023), therefore, concludes that the integration of AI tools in financial reports preparation and presentation promotes the overall reliability, dependability, and integrity of financial statements.

However, AI Accounting tools adopt technologies such as machine learning (ML), natural language processing (NLP), and computer vision (CV) to streamline tasks like data entry, reconciliation, and tax preparation. Existing Studies therefore, identified some key accounting domains that can be automated and the various AI tools applicable.

1. **Automation of Routine Accounting Tasks**

   i. Data Entry: AI tools have the capability to extract data from invoices, receipts and other source documents using Optical Character Recognition (OCR) and spontaneously input them into accounting software;

   ii. Reconciliation: AI algorithms can automate the process of matching bank statements with internal records, identifying discrepancies, and streamlining reconciliation.

   iii. Invoice Processing: AI tools like “Vic.ai” have the capability of automating the entire accounts payable process, from invoice ingestion to payment processing.

2. **Improved Financial Analysis & Reporting**

   i. Detection of Fraud: AI algorithms can analyze financial data to identify patterns and anomalies that may indicate fraudulent activity.

   ii. Predictive Analytics: AI can analyze historical data to predict future financial trends, thereby helping businesses in the critical area of budgeting and forecasting.

   iii. Financial Reporting: AI technologies can automate the creation of financial reports, save time, and improve the accuracy of accounts.

Existing literature, especially Accountancy Age (2025), equally identifies the specific AI accounting tools that can be adopted and these include: Intuit Assist: This is said to be a virtual assistant for accounting tasks within the QuickBooks Online ecosystem. This is a cloud-based accounting solution tailored for small to medium-sized businesses. “Vic.ai”: This tool focuses on automating accounts payable and other financial processes.

"Botkeeper": This tool presents a hybrid approach combining AI with human expertise for bookkeeping and accounting. "Docyt" provides a suite of AI-powered tools for accounting automation, which include invoice processing, expenses management, and month-end closing. "Zeni" combines AI-powered technology with human support for bookkeeping and financial insights, and lastly, "Karbon AI": An AI feature within Karbon's practice management software that helps with client management and workflow automation.

2.1.2 Natural Language Processing (NLP) and Financial Reporting Quality

The evolution of Artificial Intelligence (AI) marks a paradigm shift in the way organizations generate, analyze, and communicate financial information to the relevant stakeholders. Natural Language Processing (NLP) has emerged as a game-changer in financial reporting, empowering organizations to derive meaningful insights from unstructured data sources (Jejeniwa et al., 2024). Customarily, financial data was confined to structured formats, such as balance sheets and income statements. However, a significant portion of valuable information resides in unstructured data, including textual documents, news articles, and social media (Hassani et al., 2020). NLP algorithms excel at processing and understanding human language, enabling them to extract insights from diverse unstructured data sources. For financial reporting, this means a deeper analysis of market sentiments, industry trends, and qualitative information that can influence financial performance. NLP-driven analysis provides a holistic view of the factors shaping financial outcomes, enhancing the richness and depth of financial reports. The extraction of insights from unstructured data not only contributes to a more comprehensive understanding of the business environment but also enables organizations to incorporate qualitative factors into their financial narratives. This nuanced approach aligns financial reporting with the complexities of the real-world business landscape, providing stakeholders with a more holistic perspective (Chukwu et al., 2023).

Traditional report generation processes were often labor-intensive and time-consuming, involving manual compilation and analysis of data. NLP transforms this aspect of financial reporting by automating the generation of reports, leveraging linguistic analysis to present information in a coherent and structured manner. NLP algorithms can process vast datasets, identify key trends, and generate textual summaries that encapsulate the essential information for financial reports. This not only accelerates the report generation process but also ensures consistency and accuracy in presenting financial information. The automation of report generation frees up valuable time for financial professionals, allowing them to focus on higher-order tasks such as analysis, interpretation, and strategic planning. The result is a more efficient and dynamic reporting process that keeps pace with the rapid changes in the business environment (Soni, 2023). The integration of AI, particularly NLP, has played a pivotal role in accelerating reporting timelines, a critical factor in meeting the demands of today's fast-paced business landscape. NLP algorithms enable real-time data processing, allowing organizations to access and incorporate the latest information into their financial reports. This is particularly crucial in industries where market conditions, consumer behaviors, and operational dynamics are subject to rapid changes. Real-time data processing not only shortens reporting cycles but also enhances the timeliness and relevance of financial information. Organizations can respond proactively to emerging trends, capitalize on opportunities, and address challenges promptly, fostering agility in decision-making processes (Schoemaker and Day, 2021).

AI-driven automation, including NLP, expedites the analysis and compilation of financial data. By automating tasks such as data categorization, trend identification, and report generation, organizations can significantly compress the time required for producing comprehensive financial reports. Automation eliminates bottlenecks associated with manual processes, ensuring that reporting timelines are not constrained by resource limitations. This acceleration of reporting timelines not only meets the expectations of stakeholders for timely information but also positions organizations to adapt swiftly to dynamic market conditions. Beyond efficiency gains, the infusion of AI, particularly NLP, augments the communicative value of financial information (Benbya, 2020). Financial reports are not merely compilations of numbers; they serve as a communication tool to convey the strategic narrative and financial performance of an organization. NLP facilitates the crafting of narratives that accompany financial data. Instead of presenting raw numbers, NLP algorithms generate narratives that provide context, explanations, and insights into the factors influencing financial performance. This narrative enhancement contributes to a more engaging and informative financial report, fostering a deeper understanding among stakeholders. The narrative aspect is especially crucial for complex financial information that may be challenging for non-experts to interpret. NLP-driven narratives bridge the gap between technical financial data and a broader audience, making financial reports accessible and comprehensible to a diverse set of stakeholders (Sreejith and Sinimole, 2024).

NLP allows for the customization of financial reports based on the preferences of different stakeholders. The ability to tailor communication ensures that reports are not one-size-fits-all but are crafted to meet the specific informational needs of various audiences, including investors, regulators, and internal decision-makers. Tailored communication extends to the presentation format, with NLP enabling the generation of reports in various

formats, including textual summaries, visual representations, and interactive dashboards. This flexibility ensures that financial information is communicated in a manner that resonates most effectively with the intended audience.

The communicative value of financial information goes beyond data presentation; it contributes to transparency and builds trust with stakeholders (Oncioiu et al., 2020). NLP-driven narratives, explanations, and insights provide transparency into the factors influencing financial performance, helping stakeholders understand the context behind the numbers. Transparent communication, facilitated by NLP, enhances the credibility of financial reports. Stakeholders, including investors and regulatory bodies, are more likely to trust organizations that provide clear and comprehensive financial information. This, in turn, strengthens the overall governance and reputation of the organization. In conclusion, the utilization of Natural Language Processing (NLP) in financial reporting represents a transformative leap forward in the way organizations communicate their financial performance. By extracting insights from unstructured data, improving report generation processes, accelerating reporting timelines, and augmenting the communicative value of financial information, NLP-driven financial reporting aligns with the demands of the modern business landscape. As technology continues to evolve, the integration of AI, and specifically NLP, is poised to redefine the standards of financial transparency, accessibility, and communication, ushering in a new era of informed and engaged stakeholders (Vuong and Mai, 2023).

2.1.3 AI and Financial Reporting Quality: Challenges and Ethical Considerations

The integration of Artificial Intelligence (AI) into modern accounting practices and financial reporting presents a myriad of opportunities, but it is not without its challenges and ethical considerations. In this study, an attempt was made to delve into the intricacies of these challenges, exploring ethical considerations in AI algorithms, addressing biases in automated decision-making, responsible use of AI in accounting practices, data security concerns in the era of AI, and the necessity for workforce upskilling to adapt to AI technologies. The ethical implications of biases in AI algorithms are paramount, especially in the context of accounting, where objectivity and fairness are essential (Díaz-Rodríguez et al., 2023). AI algorithms, when trained on biased data, can perpetuate and even exacerbate existing biases, leading to unfair and discriminatory outcomes. Addressing biases requires a proactive approach in identifying and mitigating them during the development and training of AI algorithms. Regular audits and assessments should be conducted to scrutinize the decision-making processes and outputs for potential biases. Ethical considerations mandate ongoing efforts to refine algorithms, ensuring fairness and impartiality in automated decision-making. Transparency in AI algorithms is crucial for addressing ethical concerns. Organizations utilizing AI in accounting practices must provide clear and understandable explanations of how algorithms reach decisions (Shrestha, 2019). Transparent decision-making not only fosters trust among stakeholders but also facilitates external scrutiny, allowing for the identification and correction of biases. Beyond addressing biases, the responsible use of AI in accounting practices involves ethical considerations in the broader deployment of these technologies. When AI is employed in processes that involve personal or sensitive data, obtaining informed consent becomes crucial. Individuals affected by automated decision-making should be informed about how their data is being used and the implications of AI algorithms on their financial information. Respecting privacy rights and ensuring compliance with data protection regulations are integral to the responsible use of AI.

Maintaining human oversight in AI-driven processes is essential for accountability. While AI can streamline tasks, human accountants should remain in control, especially in decision-making processes. The responsible use of AI in accounting involves establishing clear lines of accountability and mechanisms for human intervention when needed (Raji et al., 2020). The integration of AI in accounting brings about heightened data security concerns, given the sensitive nature of financial information and the potential for malicious exploitation. AI systems, like any technology, are susceptible to vulnerabilities that cyber threats can exploit. Hackers may attempt to manipulate AI algorithms, compromising the integrity and confidentiality of financial data. Organizations must implement robust cybersecurity measures, including encryption, secure access controls, and regular security audits to protect against potential breaches (Bandari, 2023). Maintaining robust data governance frameworks is crucial for addressing data security concerns. Organizations in the AI-driven accounting landscape should adhere to industry-specific regulations and compliance standards. This involves implementing measures to secure data during processing, storage, and transmission, as well as ensuring that AI systems comply with data protection laws.

Many organizations leverage third-party AI solutions, introducing additional risks (Chiu and Lim, 2021). When relying on external providers for AI-driven accounting tools, due diligence is required to assess the security measures implemented by these providers. Contracts and agreements should include clauses addressing data

security, outlining responsibilities, and establishing accountability in the event of security incidents. The integration of AI technologies in accounting necessitates a skilled workforce capable of navigating and leveraging these advanced tools. Accountants must acquire technical proficiency in using AI tools and understanding their functionalities. This includes familiarity with machine learning algorithms, data analytics platforms, and AI-driven software. Upskilling initiatives should prioritize hands-on training and education to empower accountants to harness the capabilities of AI in their daily tasks (Jackson, 2023). The convergence of AI and accounting calls for interdisciplinary collaboration. Accountants need to collaborate with data scientists, AI specialists, and IT professionals (Ogoun, 2020). Building a shared understanding across disciplines facilitates effective communication and enhances the integration of AI into accounting practices. Upskilling initiatives should encourage collaboration and bridge the gap between financial expertise and technical know-how. The integration of AI technologies reshapes the roles and responsibilities of accountants. Upskilling initiatives should focus on preparing accountants for these changing roles, emphasizing adaptability, critical thinking, and strategic decision-making. Accountants should be equipped to interpret AI-generated insights, make informed decisions based on data analytics, and contribute to strategic financial planning (Estep, 2023). Upskilling programs should include modules on the ethical and responsible use of AI in accounting. Accountants need to be aware of the potential biases in AI algorithms, understand the implications of automated decision-making, and contribute to the development of ethical guidelines within their organizations. This ethical dimension is integral to upskilling initiatives as it ensures that the workforce is not only proficient in AI technologies but also equipped to navigate the ethical considerations associated with their use (Abulibdeh, 2024). In conclusion, the integration of AI in modern accounting practices and financial reporting offers unprecedented opportunities for innovation and efficiency. However, addressing the associated challenges and Upskilling initiatives should focus on preparing accountants for these changing roles, emphasizing adaptability, critical thinking, and strategic decision-making. Accountants should be equipped to interpret AI-generated insights, make informed decisions based on data analytics, and contribute to strategic financial planning (Estep, 2023).

Upskilling programs should include modules on the ethical and responsible use of AI in accounting. Accountants need to be aware of the potential biases in AI algorithms, understand the implications of automated decision-making, and contribute to the development of ethical guidelines within their organizations. This ethical dimension is integral to upskilling initiatives as it ensures that the workforce is not only proficient in AI technologies but also equipped to navigate the ethical considerations associated with their use (Abulibdeh, 2024). In conclusion, the integration of AI in modern accounting practices and financial reporting offers unprecedented opportunities for innovation and efficiency. However, addressing the associated challenges and ethical considerations is paramount to ensuring a harmonious and responsible implementation of AI technologies. Ethical considerations in AI algorithms, including the identification and mitigation of biases, and the responsible use of AI in accounting practices, underscore the need for transparency, fairness, and accountability (Diakopoulos, 2020). Data security concerns necessitate robust measures to protect sensitive financial information from cyber threats and unauthorized access. The necessity for workforce upskilling is a proactive approach to empower accountants with the technical proficiency, interdisciplinary collaboration skills, adaptability, and ethical awareness required in the AI-driven accounting landscape. As organizations strive to strike a balance between innovation and ethics in AI integration, a holistic approach that integrates technological advancements with ethical frameworks is imperative (Stahl, 2021).

2.1.4 Impact of AI tools on financial reporting quality, auditing and information asymmetry

As a result of the integration of AI innovative technology, the current study positions that financial reporting and auditing operating environment is experiencing a significant innovative paradigm due to the massive waves blowing across all spectrum of industry. It is therefore documented that AI-driven technologies have the capability of reducing information asymmetry to investigate huge databases using advanced algorithms by ensuring that relevant users of financial information receive more concise and prompt insights into financial reporting. This is therefore in consonance with the studies of Zhang et al., (2022) and Seethamraju & Hecimovic (2023), Bin-Nashwan et al., (2025) in which they documented that significant amount of operational and financial data can be explored with the assistance of innovative AI-enhanced technologies. In effect, AI-based technologies have the capabilities of detecting patterns and anomalies that can be omitted using the conventional approach in financial reporting and auditing.

Hence, adopting AI has the potential to improve openness and close the information gap between investors and firms. Better informed decisions are made while the trust and accuracy in financial reporting are enhanced. Audit efficiency is also reshaped by AI (Rahman et al., 2024., Seethamraju & Hecimovic, 2023). In the view of Thottoli (2024), auditors can perform more in-depth financial statement assessments and transactions with the help of system-based data mining and AI technologies that detect patterns and analyze risks through a simple

algorithm. AI technologies have the potential to improve error and fraud detection while facilitating the audit process. This consequently enables auditors to concentrate more on audit tasks that demand critical analysis and professional judgement, thereby improving reliability, dependability, and quality of financial reporting.

2.2 Theoretical Clarification

2.2.1 Diffusion of Innovations (DOI)

Diffusion of Innovations (DOI), also known as the diffusion of technologies theory, as theorized by Rogers (2003) and used in Bin-Nashwan et al. (2025), explains how, why, and at what rate new ideas and technologies spread through a population. DOI suggests a process where an innovation or a new technology is communicated through certain channels over time among the numbers of a social system. Essentially, it describes how a new phenomenon moves from its origin to widespread adoption. Application of this theory in the current study dictates that an understanding of the DOI theory is essential for gaining insight into how new technologies are adopted and integrated into society. It assists in predicting adoption rates, identifying potential barriers, and developing strategies to accelerate the diffusion of beneficial innovations. The theory identifies five key attributes: relative advantage, compatibility, complexity, trialability, and observability, that influence the rate of adoption. Among these, relative advantage plays a pivotal role, referring to the degree to which an innovation is perceived as better than its predecessor. This perceived superiority, whether in terms of efficiency, cost-effectiveness, or other benefits, drives the decision to adopt. By framing relative advantage within DOI, this study leverages the theory to understand how perceived benefits influence adoption behavior in the specific context.

However, DOI theory cannot be divorced from the interplay that exists between the theories if the Technology Adoption Model (TAM) and Technology Organization Environment (TOE) theoretical framework, as adopted in Genger et al., (2015) while investigating the application of cloud computing. The study demonstrated the interplay between the perceived ease of doing business, relative technological advantage as embedded in Davis (1989) TAM theory and organizational ecosystem both internal and external factors as propounded in Tornatzky and Fleischer (1990) theoretical framework for TOE. In the same vein, Chatterjee et al. (2021) adopted the integration of TAM & TOE to investigate the AI paradigm application in an organizational setting. Their discovery was mind-blowing as they empirically documented that the preparedness of the organization and acceptance by individuals as embedded in the TAM & TOE models are the key drivers of innovational/technological adoption. Pfeffer & Salancik (2003) framework for Resource Dependence Theory (RDT) equally clarifies the motivational strategy supporting adoption of technology in a business ecological terrain, especially in a resource-dependent organization. Although Bin-Nashwan et al., (2025) argued that the adoption of this theoretical framework appears scanty in accounting and auditing research, justifying their research gap to hit the ground running. In close proximity to the accounting and auditing landscape, they therefore went further to adopt the integration of TAM-TOE-RDT theoretical framework in the adoption of AI to indicate its impact on accounting, auditing and information asymmetry. Sadly, their study was highly theoretically novel but conspicuously devoid of DOI integration in their adopted framework. This current study therefore empirically investigates the impact of AI on financial reporting quality, demonstrating past, current, and future challenges by leveraging on Bin-Nashwan et al., (2025) with the inclusion of the Diffusion of Organization Innovation (DOI) framework in the current study.

Literature within this theoretical framework appears scanty, especially in the accounting and auditing related field of study, the achieved success in other domains serves as a pointer to the fact that integrating them in this study is theoretically and empirically grounded with novelty. The application will no doubt provide an in-depth understanding of the impact of AI integration on financial reporting quality.

Nurturing new technology is very critical (Bin-Nashwan et al., 2025). It is therefore believed that employees' attitudes towards embracing changes, workplace ethics and the behavioral patterns of top echelon of management influence the perception and readiness of the subordinate staff to embrace novel technology such as AI in an organization (Al Wael et al, 2023). It is little wonder that Bin-Bin-Nashwan et al. (2025) argue that the organization's leadership team plays a critical role in influencing the technology climate in the workplace if they deliberately choose to do so. Opposition from the top management team to adopt new technology could jeopardize technology adoption in a workplace.

Adoption of AI in Auditing in particular may suffer from general adoption because existing technologies such as expert systems (Vasarhelyi et al., 2005), computer-assisted audit techniques (CAATs) (Seethamraju & Hecimovic, 2023) and other innovations in the past. Efficiency and quality of audit were reported to have been on increase resulting from adopting computerization of audit and accounting duties by providing debtors with

electronic verifications (Rozario & Vasarhelyi, 2018). In spite of the perceived improved efficiency in the computerization of audit roles, Pedrosa et al., (2020); Khan et al. (2021) documented that about 50% of auditors failed to adopt Computer Assisted Audit Techniques, popularly known as CAATs in addition to the conventional Excel spreadsheets. Although Bin-Nashwan et al. (2025) opined that innovative AI tools that make use of advanced technologies such as robotic process automation (RPA) and Machine Learning (ML) have their attendant benefit of revolutionizing the existing process of auditing. Yet, there is paucity of empirical study on how audits are really integrating these advanced AI tools in auditing and accounting.

3.0 Methodology

The study adopted a cross-sectional survey research design. Olagunju (2013) believes that a cross-sectional research design is appropriate for a research scenario of this nature, especially when data are required to be gathered from a selected sample in order to represent the population of the study. This method of research is popularly used in exploratory research to unravel on new phenomenon such as the evolution of a new technology as used in Bin-Bin-Nashwan et al. (2025). In social and management science research domains, it becomes difficult to subject the existing relationship between explanatory and criterion variables to manipulations (Baridam, 2001)

The study also took a step further to administer online questionnaire survey among the professional chartered and certified accountants who are practicing in the United States of America and Federal Republic of Nigeria. The choice of the two countries was borne out of the fact that the United States of America has the most advanced technological enabling environment to accommodate AI-driven technology. In addition, the existing studies have equally established that America is the fastest growing innovator and adopter of AI-powered technologies that including Microsoft, Google, and some other notable big brains in AI-driven technologies around the world. On the other hand, Chartered Accountants operating within the Nigerian space were also surveyed because Nigeria is the fastest-developing economy that always leverages the US's advanced digital economy as a template for growth. These financial professionals are believed to be well knowledgeable in the application of AI-enabled technologies in their day-to-day routine operations. The online survey questionnaires were administered through the WhatsApp platform of the ICAN-USA members. The ICAN-USA WhatsApp members platform is a platform for the members of the Institute of Chartered Accountants of Nigeria (ICAN) who mostly double as either members of Certified Public Accountants (CPA) and/or Certified Internal Auditors (CIA). Overall, as of July 15^{th,} 2025, the WhatsApp platform comprises 170 members whose consents were sought for their interest in participating in the survey. The online survey questionnaires employed a 5-point Likert scale, ranging from 1 (Strongly Disagreed, SD) to 2 (Disagreed, D), 3 (Undecided, U), 4 (Agreed, A), to 5 (Strongly Agreed, SA). A 5-point Likert scale was considered appropriate for this study, as it did not overwhelm the respondents with too many options due to their busy routines.

A response of 165 was harvested from the survey, which constituted a response rate of 97% which was considered valid for a study of this nature. After removing 5 outliers based on incomplete responses to the overall questionnaire items, 160 responses were ultimately used and analyzed for data validation. The contents of the research instrument were reviewed by 2 accounting researchers and 3 financial reporting experts who were well-versed in AI-driven technologies for content validity and reliability

The online survey questionnaire was divided into 3 sections, the first section, classified as “Section A,” was arranged to seek responses in relation to demographic characteristics of the respondents. Section B, the second section, was designed to gather responses relating to the adoption of AI-driven technologies and the quality of financial reporting. The third section, “Section C,” was predetermined to gather responses in relation to challenges and the future of AI adoption in financial reporting.

4 Data Presentation and Analysis

Descriptive statistics on demographic characteristics of the respondents were displayed in Table 1. From the table, it can be observed that in relation to the gender variable of the respondents, the study reveals that 114 are male, which constitutes 71.25% of the respondents, while 46 are female which represents 28.75% of the respondents. This implies that male gender are more interested in AI-driven technologies than their female counterparts, both in the Uni ted States of America and Nigeria. Relating to age variable of the respondents, 75% is the range of 36-50 years while 15% and 10% are in the categories of 21-35 years and 51 years and above, respectively. This result implies that the category of respondents for this study is very mature enough to give valid and reliable responses on AI-driven technologies adoption and its impact on financial reporting quality. Hence, responses given by the class of respondents can be reliable. Regarding the marital status of the respondents, 80% are married, while 8% and 12% are single and divorced/widowed, respectively. This finding

suggests the level of responsibility of the accounting/finance professionals engaged for this study. On the level of academic qualifications of the respondents, 45% and 55% possessed HND/B.Sc./BA and MBA/MSc/MA/DBA/Ph.D., respectively. This indicates that all the respondents are well read and educated to be able to present unbiased responses to the issues being addressed in the questionnaire. The professional qualifications of the respondents, 100% are members of the professional Institute of Chartered Accountants of Nigeria (ICAN) and/or American Institute of Certified Public Accountants (AICPA). This testifies to the fact all the participants in this study are experts in the field of accounting and as such their views or perceptions about the underlying phenomenon should be seen valid and reliable. The years of working experience of respondents show that 68% of the respondents possess experience of over 10 years and above. This however lays credence to the quality and integrity of the information provided for this study given the level of their experience and exposure in the professional practice of accounting in both America and in Nigeria.

Table 1: Demographic Characteristics of Respondents

Items	Frequency	Percentage (%)
Gender		
Male	144	71.25
Female	46	28.75
Total	160	100
Age 21-35	24	15
36-50	120	75
51 above	16	10
Total	160	100
Marital Status		
Married	128	80%
Single	13	8%
Divorced/Widowed	19	12%
Total	160	100
Highest Academic Qualification		
HND/B.Sc./BA	72	54
MBA/M.Sc./MA	88	46
DBA/Ph.D.	0	0
Total	65	100
Professional Qualifications		
CPA/ACA/FCA/CIA	160	100
Others	-	-
Total		100
Years of Working Experience		
1 – 5	17	11
6 – 10	34	21
10 & Above	109	68
Total	160	100

Source: Field Survey, 2025

Tables 2 to 5 display the results of data analysis on the benefits of AI-technology integration to financial reporting and ANOVA results. Table 2 reveals the responses from respondent accounting professionals on the perceived benefits of AI technology to financial reporting quality. The significant number of responses is in agreement with the statements indicating high perception of AI-technology integration in financial reporting is critical to evolve a new paradigm in financial reporting and in the accounting space as a whole. This was further buttressed by the ANOVA results in Tables 3 and 4 below. From Table 3, the result given by the 10 questionnaire items that addressed the benefits of AI-driven technology integration in financial reporting namely, accuracy, reliability, reduction of errors, narrowed information asymmetry, risks mitigation and timeliness, produced a positive AI-driven technology influence on financial reporting quality.

F-test: The f-test has a value of 642.162 with a p-value of 0.000<0.05. This means that the overall regression results show that the independent variable, AI-powered technology integration, has significant influence on the financial reporting quality in the United States of America and Nigeria.
It therefore indicates that the null hypothesis stating that AI-powered technology has no significant influence on Financial Reporting Quality in the United States of America and Nigeria is rejected while the alternative hypothesis is hereby accepted. Hence, that AI-powered technology has no significant influence on Financial Reporting Quality in the United States of America and Nigeria.

Table 2: Data presentation from field survey

S/N	ITEMS	SA 5	A 4	U 3	D 2	SD 1
1	Integration of AI-powered technologies enhances the accuracy of financial records	130	25	4	1	0
2	Integration of AI-powered technologies ensures the reliability of financial statements.	132	24	3	1	0
3	Integration of AI-powered technologies in financial reporting has the capability of tracking misstatements in the financial records.	140	16	4	0	0
4	AI-powered technologies integration ensures timely and efficient categorization of transactions.	145	15	0	0	0
5	Integration of AI-powered technologies mitigates against the potential risk of fraud and ensures the reliability of financial statements.	150	10	0	0	0
6	Integration of AI-powered technologies ensures the elimination of information asymmetry	150	9	1	0	0
7	Integration of AI-powered technologies ensures the integrity of financial reports.	152	7	1	0	0
8	Integration of AI-powered technologies helps in the early detection of errors and fraud	155	5	0	0	0
9	Integration of AI-powered technologies facilitates the timely delivery of financial reports to the relevant stakeholders	150	8	2	0	0
10	Use of AI-powered technologies promotes thematic modern accounting practice that increases the reporting quality.	148	12	0	0	0

Source: Field Survey, 2025.

Table 3: Analysis of Variance (ANOVA)

		Sum of Squares	Df	Mean Square	F-Value	Sig Value
Integration of AI-powered technologies enhances the accuracy of financial records	Btw Group Within Total	64.524 6.232 70.756	4 160 164	16.131 .039	82.425	.000
Integration of AI-powered technologies ensures the reliability of financial statements.	Btw Group Within Total	68.324 5.482 73.806	4 160 164	17.081 .034	76.456	.000
Integration of AI-powered technologies in financial reporting has the capability of tracing misstatements in the financial records.	Btw Group Within Total	58.425 5.523 63.948	4 160 164	14.606 .035	70.645	.000
AI-powered technologies integration ensures timely and efficient categorization of transactions.	Btw Group Within Total	60.242 6.421 66.661	4 160 164	15.061 .040	69.453	.000
Integration of AI-powered technologies mitigates against the potential risk of fraud and ensures	Btw Group Within	68.426 6.421	4 160	17.106 .040	68.453	.000

the reliability of financial statements.	Total	74.847	164			
Integration of AI-powered technologies ensures the elimination of information asymmetry	Btw Group Within Total	64.427 5.523 69.950	4 160 164	16.106 .034	68.456	.000
Integration of AI-powered technologies helps in the early detection of errors and fraud	Btw Group Within Total	60.145 5.823 65.968	4 160 164	15.036 .036	55.658	.000
Integration of AI-powered technologies ensures the integrity of financial reports.	Btw Group Within Total	58.456 6.426 64.882	4 160 164	14.614 .040	62.456	.000
Integration of AI-powered technologies facilitates the timely delivery of financial reports to the relevant stakeholders	Btw Group Within Total	62.546 6.243 68.789	4 160 164	15.636 .039	66.752	.000
Use of AI-powered technologies promotes thematic modern accounting practice, hence increasing the reporting quality.	Btw Group Within Total	61.634 5.893 67.527	4 160 164	15,408 .036	65.643	.000
Use of AI-powered technologies promotes thematic modern accounting practice, increasing the reporting quality.	Btw Group Within Total	70.256 4.452 74.708	4 160 164	17.564 .027	64.428	0.000

Table 4: OVERALL ANOVA MATRIX TABLE

Model	Sum of Squares	Df	Mean Square	F	Sig
1 Regression	462.242	4	76.802	642.162	.000
Residual	48.802	160	.729		
Total	**511.044**	**164**			

Source: ANOVA Regression Result, 2025

x. Independent variable – AI-Powered Technology

y. Dependent Variable – Financial Reporting Quality

5. 1 Discussion of Findings

This study investigated the influence of AI-powered technology on financial reporting quality in the United States and Nigeria. The findings show that the Integration of AI-powered technology has a significant influence on the financial reporting quality in the United States of America and Africa. This is obvious in the 10 items of the online survey questionnaire administered among the participants lending credence to the fact that integration of AI-powered technology in the financial reporting enhances accuracy., reliability, tracking of errors and frauds, timely and efficient delivery of financial reports, categorization of transactions, mitigation of potential risks, elimination of information asymmetry, and lastly promotes thematic presentation of modern-day financial reports.

5.2 Conclusion

The study therefore concluded that AI-powered technology has significant influence on financial reporting quality by enhancing its accuracy., reliability, tracking of errors and frauds, timely and efficient delivery of financial reports, categorization of transactions, mitigation of potential risks, elimination of information asymmetry, and lastly promotes thematic presentation of modern-day financial reports in the United States of America and Africa.

5.3 Recommendations

AI-powered technology is hereby recommended for massive integration in the preparation and presentation of the financial reports to enhance the accuracy., reliability, tracking of errors and frauds, timely and efficient delivery of financial reports, categorization of transactions, mitigation of potential risks, elimination of

information asymmetry, and lastly promotes thematic presentation of modern-day financial reports in the United States of America and Africa.

5.4 Limitation of the Study

This study was carried out to investigate the influence of AI-powered technology on financial reporting quality in the United States of America and Africa using Nigeria as a proxy for the entire African region. However, the findings of this research were arrived at by conducting a cross-sectional study on the influence of AI-powered technology integration on financial reporting quality through respondents' perception measurement. Existing studies have shown that perceptions and attitudes are subject to changes over time. It is therefore advisable to carry out a more quantitative study on this line of study by using historical accounting figures contained in the financial reports for analysis. Moreover, the scope of this study is limited to a handful of accounting and financial professionals in the USA and Nigeria, which therefore limits the findings to the immediate ecosystem of the operating environment of the participants. Hence, the application of the findings of this study cannot be generalized in every circumstance; therefore, it should be applied cautiously.

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