

ARTIFICIAL INTELLIGENCE FOR FINANCIAL ACCOUNTABILITY, CORPORATE GOVERNANCE, AND ECONOMIC SUSTAINABILITY: AN OVERVIEW

STEPHEN GWAR, PhD.

Department of Accounting
Rev Fr Moses Orshio Adasu University
Makurdi, Nigeria

DR AWE BABAJIDE IBRAHIM AGBOLUGA, PhD. Mni

Association of National Accountants of Nigeria (ANAN)
Headquarters, Abuja-Nigeria

Correspondence: stevegwar06@gmail.com or sgwar@bsum.edu.ng
<https://doi.org/10.57233/gujaf.v7i1.033>

Abstract

This paper explores the transformative potential of artificial intelligence (AI) in enhancing financial accountability, corporate governance, and economic sustainability in Nigeria. As the global digital economy advances, AI technologies such as machine learning, natural language processing, and predictive analytics offer powerful tools for real-time auditing, fraud detection, and resource optimization. These capabilities significantly enhance transparency and strengthen fiscal discipline. Drawing on global case studies, the study highlights how AI, when supported by robust regulatory and ethical frameworks, can significantly strengthen financial oversight and governance. In Nigeria, however, AI adoption faces notable challenges, including regulatory gaps, limited technical capacity, data privacy concerns, algorithmic bias, and the opaque nature of AI systems. Existing policies such as the National Digital Economy Policy and Strategy (2020–2030) and the Nigeria Data Protection Regulation (2019) provide some groundwork, but inconsistent implementation and the lack of a comprehensive AI legal framework hinder progress. Ethical considerations, including data governance, fairness, and explainability, are critical to ensuring public trust and equitable outcomes. Without deliberate safeguards, AI risks reinforcing systemic inequities. The paper recommends urgent action, including enacting the National Artificial Intelligence Strategy 2024, mandating AI explainability standards, and strengthening data protection enforcement. A proactive, ethical approach to AI deployment is essential for Nigeria to harness its full potential for inclusive, transparent, and sustainable development.

Key words: Artificial intelligence, Accountability, Governance, sustainability

1.0 Introduction

The operational activities of organizations both in private and public sectors are shouldered with the responsibility of ensuring the strong implementation of financial accountability and governance that are sustainable economically. In our contemporary complex corporate world, financial accountability and corporate governance mechanisms which are sustainable are essential for ensuring organizational integrity, prudence, accountability and transparency. Rizki et al. (2024) stated that in creating a robust public sector requires the operation of strong financial accountability and governance practices that foster trust, transparency, and the moral apportionment of resources.

The concepts of financial accountability, corporate governance and economic sustainability make certain that economic units function with integrity, enhance regulatory compliance, and

meet stakeholder hopes. The concept of accountability is essential in the operations of an economic unit and it is a basis of effective corporate governance. Accountability as a concept with the organizational setup incorporate a number of issues such as financial processes, human resources strategies and management arrangements. Benson (2022) posited that accountability ensures that the actions and decisions of organizations are transparent and aligned with the interests of its stakeholders. This explores the various facets of accountability in corporate governance, including the roles of the board of directors, executive accountability, and shareholder and stakeholder engagement. Corporate governance mechanism can be viewed as structures and setups put in place by economic units to address the extent of agency challenges as a result of separation between ownership and control. It has attracted the needed attention in the 21st century due to the corporate scandals and the failures of firms across the globe. The mechanism addresses essential issues such as accountability and transparency which enhance the needed financial security and stability within the economic units. Sustainability as a concept or word has become a topic issues of emphasis globally. It refers to virtually anything which ranges from environmental, social and economic perspectives. Within the economic sustainability realm, the issues of inclusive policy analysis, sustained growth of output and accustomed national accounts.

Artificial Intelligence (AI) is a trending and world-shattering technological tool that is built in solving complex tasks by carrying out roles that hitherto required human capabilities. It is a tool that is meaningfully improving financial accountability, corporate governance, sustainable growth, value-added risk management, increased efficiency and effectiveness within organization. Al-Baity (2023) posited that implementation of AI can assist in improving decision making, enhanced accountability and transparency processes.

The mix between AI, financial accountability, corporate governance and economic sustainability in organizational setting comes with both strategic benefits and impediments. Flowing from the above development, this presentation is set out to find out the implications of Artificial Intelligence for financial accountability, corporate governance and economic sustainability. This paper explores the potential of AI on financial accountability, corporate governance, and economic sustainability within the Nigerian context, while also acknowledging the unique challenges and ethical considerations that must be addressed.

2.0 Nexus between Artificial Intelligence and Financial Accountability

AI is a supercomputer systems that integrate utilities such as leaning, problem solving and logical reasoning is a way that is similar to human intelligence. It assists the establishment of structures that can operate independently, fully or partially through the use of machines learning processes and related technologies. In line with the positions stated, AI can be understand as a functional structure that naturally involves human brainpower.

Conceptually, financial accountability is quite essential in the corporate world because of the emphasis on financial transparency and accountability aspects. It has to do with the provision of reports by an economic unit on the usage of financial resources and financial performance to

the various stakeholders. Financial accountability demands that all financial data must be obviously presented and available to the various stakeholders. The fundamental objective associated with financial accountability has to do with ensuring that an agency's financial statements offer an accurate and reliable position of their financial situation and results of processes. Accountability is crucial for maintaining trust among stakeholders and ensuring that the company operates within its legal and ethical boundaries. Transparency involves the clear, accurate, and timely disclosure of information about the company's activities, performance, and financial health. The basic components of financial accountability are budgeting and risk management and the essential aspect of financial accountability includes

- i. **Strong roles and obligation:** Their position is to enhance financial decisions, and transparently report on their use to various stakeholders of an economic entity. Similarly, they make sure that funds are controlled uprightly, checkmating fraud and sustaining reliability within the system.
- ii. **Transparency and disclosure:** These are the core pillars of effective corporate governance. They facilitate the footpath that indicate the judicious management of funds, promote legal and ethical obedience as well as avert misdemeanours.
- iii. **Judicious financial management:** This has to do with the situation whereby those anchored with the responsibility of handling financial resources are accountable to various stakeholders, keep accurate financial records and ensure transparent financial disclosure.
- iv. **Internal controls:** This component of financial accountability with necessary aspects such as; rules, systems, rules, and procedures that an economic unit put in place to promote financial integrity, transparency, and prevent fraud; it also deals with processes promote to enhance financial integrity, transparency, and prevent fraud.
- v. **Integrity:** It is the cardinal aspect of economic unit that enhance sustainable success. It make certain that funds are properly managed with all honesty, and transparency in disclosure. This builds vibrant credibility with various stakeholders of the organization.
- vi. **Accountability tools:** Those tools promotes or ensures that entities transparently manage, operations tracked, and resources are optimally utilized. The tools (frameworks, modest ledgers, broad analysis, and robust governance structures) indicate a clear accounts record keeping, alleviating fraud incidences, and expenditures control measures.
- vii. **Independent audit:** Within this context, independent audit works as the cardinal point by providing an dispassionate assessment to assure various stakeholders that financial statements as presented are precise and devoid of material misstatement.

Accountability is essential for upholding trust among various stakeholders and making sure that the economic unit works within its legal and ethical precincts. Transparency has to do with clarity, accuracy, and timely disclosure of information about the economic unit's operational performance and financial well-being. This standard allows the various stakeholders to make up-to-date decisions and nurtures confidence and trust of the economic unit's operations. Within the CG setup, Integrity denotes adhering to ethical values and practices in all economic unit activities. Also, it includes ethical behaviour, honesty and commitment in doing the rightful things. AI tools assist in the generation of reports and disclosures. It promotes data

collection automation, analysis and fusion. Also, AI platform can generate comprehensive reports with tremendous speed and accuracy, hence assist in reducing the encumbrance on human resources nevertheless reduces the risk of inaccuracies in financial and regulatory reporting (de Villiers et al., 2024).

From the above, it is established that the operational scope of AI and that of financial accountability are similar. This position is anchored on the fact that AI offers the potential of improved efficiency, enhanced decision-making procedures, and the prospective for better transparency. Schaefer, et al, (2021) opined that the reliability of financial structures has been outstandingly enhanced through the application of artificial intelligence in areas such as fraud detection, regulatory compliance, and risk assessment. AI engagement in financial accountability enhanced transparency and accountability which are crucial for promoting confidence and integrity in shareholder dealings. Financial accountability reveals the types of data AI analyses, draw conclusions or recommendations thereof, and put in place measures that will address inaccuracies. Transparency and accountability are synonymous in nature. In enhancing a robust decision making by shareholders and other stakeholders, economic unit should define clear lines of accountability for AI.

3.0 Interconnection between Artificial Intelligence and Corporate Governance

Corporate governance (CG) is a structure by which economic units are directed and controlled. Also, it is tools and procedures that confirm the alliance of corporate activities with the wellbeing of various stakeholders, maintaining the integrity and efficiency of financial and managerial operations. CG ensures that economic units work with transparency, accountability, integrity, and fairness, hence upholding the wellbeing of various stakeholders. According to Nembe et al (2024) CG is an essential framework that oversees the conduct, structure, and procedures of economic units. Scott et al. (2024) posited that CG which is effective is premised on numerous essential mechanisms that work together in promoting the company's success and compliance with regulatory and ethical principles. In the views of Konadu et al (2021) CG has the following essential principles and components which support its robustness:

- i. **Accountability:** This showcase a clear, distinct roles as well as tasks associated management, board, and various vital stakeholders. This ensure that various structures within the governance are held responsible for their decisions, actions/inactions as it relates to organizational management.
- ii. **Transparency:** This ensure a clear, accurate, and well-timed information disclosure as it relates to the financial position and tactical operations.
- iii. **Integrity:** This relate to corporate ethical corporate as it enhances straightforward decision-making, unethical conduct and checkmating corrupt practices.
- iv. **Fairness:** This aspect is built on impartial treatment of various stakeholders devoid of favouritism and discrimination through inclusivity and diversity in an organization.

Observance to these principles and components by economic units can augment their governance practices, build trust among the various stakeholders and the resultant long term effect is that success and stability is achieved.

AI is a tool that enhanced the principles and components of CG as stated above. Currently, AI tools have progressed beyond these simple solution providing approaches. It provides predictive analytics and detailed data analysis platform. Within the contemporary setting, AI tool can perform complex functions that enhanced efficient and effective operations of economic units. Wirtz and Muller (2019) stated that modern AI tool will advance the efficiency and effectiveness of service delivery and essentially change the systems through which service delivery in the future will be enhanced.

The incorporation of AI into CG has restructured the setting of decision-making within organizations. AI has brought in the potential of increased efficiency, effectiveness, value-added decision-making developments, and the prospect for better transparency. The setting of organizational decision-making has be tremendously changed as a result of the integration of AI into corporate governance setup. Indisputably, AI can give economic unit indisputable effectiveness and competitive lead. Van der Zande et al. (2020) viewed CG in the context of AI as a range of applications and structures that enable decision-making procedures, boost operations, and improve strategic planning. The wide-range application of AI in CG indicates how technology can change the landscape of economic unit's operational function and decision making arrangements. AI has a greater strategic insights potentials, cost savings mechanism and increased efficiency and effectiveness within the corporate governance mechanism.

4.0 Nexus between Artificial Intelligence and Economic Sustainability

Economic sustainability prominence comes from the 1987 World Commission on Environment & Development. It connotes development that meets the needs of the present without conceding the ability of future generations to meet their economic necessities. It enhances reputational function of an economic unit as perceived by its stakeholders and facilitate more rigorous and robust management systems and decision making processes to better manage social risks, opportunities and impacts. In the views of Ikerd (2012) the principles for Economic Sustainability are;

- i. **Scarcity:** He stated that something only possesses economic value if it is limited. He further stated that economic sustainability means human economies must prudently assign scare environmental and physical resources to meet wants without exhausting the world
- ii. **Efficiency:** In this context, economic efficiency is not just limited to producing more goods at the lowermost direct cost. It involves a balance so that extracting and exploiting resources will not permanently damage the environment.
- iii. **Freedom:**It has to do with independence of individuals to make free choices. Therefore, under this context, users as well as citizens should have the freewill to act in their shared long-term concern instead of a short-term, and self-interested advantages.

A sustainable economy is guided and constrained by ecological, social, and economic principles. Ikerd (2012) advanced how the economic principles of scarcity, efficiency, and authority are crucial for economic sustainability. Since everything is interrelated within the universally ecosystem of which societies and economies are part, the essential doctrines of economics are also principles of social and ecological interactions, the basic social principles are also philosophies of economies and ecosystems, and core ecological principle are also principles of sustainable economies and societies.

Once AI systems are concerned, essential issues of scarcity, efficiency and authority which are central for ensuring confidence and integrity in various stakeholder relations is assured. While AI can improve communication and rationalize operations which are sustainable, it is vital to ensure that all stakeholders are aware of its future role as it affect decision-making principles. The decision making principles of AI have role of enhancing economic sustainability of economic unit.

It is established from the above positions that AI technologies enhanced good governance mechanism which are premised on financial accountability, corporate governance and economic sustainability. The concepts as advanced herewith are anchored on issues of integrity, accountability, disclosure, effectiveness and efficiency. This issues are quite vital in affairs of any organization and they promote quality decision making by the various stakeholders. The nexus between the AI and the various good governance are that the technologies enhanced their robust implementation which is built on efficiency and effectiveness.

AI has transform the way economic units generate their financial reports and discloses them. The AI transformation has to do data collection automation, analysis, and production. With the aid of AI platform, comprehensive reports can be produced with remarkable speed and accuracy to the various stakeholder for an informed decision making. The essential aspect associated AI adoption is its usage in automating routine tasks and procedures (Khurshed, 2024). According to de Villiers et al. (2024) AI reduces the problem on human resources as well as minimized the risk of errors in financial and regulatory reporting. Also, it can increase the quality of disclosures by ascertaining risks, trends and opportunities unknown within the data collected and analysed. Companies also need to be transparent about the data sources and AI algorithms applied to shareholder interactions. This includes revealing the kinds of data AI analyses, how it formulates conclusions or suggestions, and any measures taken to thwart inaccuracies (Naiseh et al., 2021).

Challenges of AI Integration for Financial Accountability, Corporate Governance, and Economic Sustainability in Nigeria

- i. **Data Quality and Availability:** AI systems rely on large, clean datasets for accuracy. In Nigeria, incomplete or inconsistent financial data especially in the public sector limits the effectiveness of AI in enhancing transparency and accountability.

- ii. **Cybersecurity Threats:** The increased use of AI in financial systems raises the risk of sophisticated cyberattacks, data breaches, and system manipulation, especially where cybersecurity measures are weak or outdated.
- iii. **Ethical and Bias Concerns:** AI systems may reflect or reinforce existing biases if not properly designed, which could lead to unfair decisions in areas such as performance evaluations, and risk assessments.
- iv. **Lack of a Comprehensive AI Legal Framework:** Nigeria has yet to enact a dedicated legal and regulatory framework for AI development and deployment, resulting in uncertainty around accountability, liability, and ethical standards.
- v. **High Cost of AI Adoption:** Developing and deploying AI solutions can be expensive. Many financial institutions and corporate organisations lack the financial resources to invest in AI technologies.
- vi. **Digital Divide and Inequality:** Disparities in digital access between urban and rural areas can lead to unequal AI benefits, exacerbating socio-economic and regional inequalities.

5.0 Conclusion and Recommendations

Based on the findings of this paper, the following recommendations and implementation strategies are proposed:

- i. The Federal Ministry of Communications, Innovation, and Digital Economy should implement the National Artificial Intelligence Strategy 2024 to provide a clear roadmap for AI adoption.
- ii. The Federal Government of Nigeria should develop a national AI cybersecurity protocol to safeguard financial institutions and corporate governance.
- iii. Federal Ministry of Communications, Innovation, and Digital Economy to strengthen the enforcement of the NDPR to ensure data privacy and security in AI deployment.
- iv. The Financial Reporting Council of Nigeria (FRC) should mandate AI explainability standards to address the “black box” problem and enhance transparency in financial and corporate governance applications.
- v. EFCC and professional bodies like ANAN and ICAN should develop AI ethics training programmes to address algorithmic bias and promote ethical governance.

Conclusion

Artificial Intelligence holds transformative potential for enhancing financial accountability, corporate governance, and economic sustainability in Nigeria. By leveraging AI technologies, institutions can improve transparency, detect fraud, and strengthen decision-making processes. However, realizing these benefits demands more than technological adoption, it requires a robust legal and regulatory environment, ethical oversight, and inclusive capacity building. The

Nigerian context presents unique challenges, including infrastructural deficits, regulatory gaps, data quality issues, and the digital divide. Yet, global and regional case studies affirm that with proactive governance, AI can be harnessed to reduce corruption, promote economic inclusion, and ensure sustainable development. The imperative now is for Nigeria to transition from policy intent to concrete implementation by enacting the National Artificial Intelligence Strategy and strengthening data protection laws. Additionally, mandating AI explainability and fostering a culture of ethical AI use are crucial steps forward. With coordinated efforts from government, private sector, academia, and civil society, AI can become a powerful enabler of Nigeria's accountability and development agenda.

References

- Al-Baity, H. H. (2023). The artificial intelligence revolution in digital finance in Saudi Arabia: A comprehensive review and proposed framework. *Sustainability*, 15(18), 13725.
- Benson, S.A. (2022). A review of corporate governance practices in the service industry in modern-day business. *ADRRJ Journal of Arts and Social Sciences*, 19(1 (7), January 2022-March), 147-158
- De Villiers, C., Dimes, R., & Molinari, M. (2024). How will AI text generation and processing impact sustainability reporting? Critical analysis, a conceptual framework and avenues for future research. *Sustainability Accounting, Management and Policy Journal*, 15(1), 96–118
- e-Estonia. (2022). How Estonia Uses AI to Drive Digital Governance. Retrieved on 20/5/2025 from <https://e-estonia.com>
- Federal Ministry of Communications and Digital Economy (2020). National Digital Economy Policy and Strategy (2020–2030). Retrieved on 20/5/2025 from <https://www.nitda.gov.ng/>
- Ikerd, J. (2012). *The essentials of economic sustainability*. Sterling, VA: Kumerian Press
- Internal Revenue Service (2023). Artificial Intelligence at the IRS: Advancing Tax Compliance and Fraud Detection. Internal Revenue Service, U.S. Department of the Treasury.
- Khurshed, S. (2024). Artificial intelligence in automating processes in businesses. *Journal of Artificial Intelligence and Digital Economy*, 1(10), 1–3.
- Kenya Revenue Authority (2023) Kenya Revenue Authority Annual Report 2022/2023: Leveraging Technology for Compliance and Efficiency. Nairobi: Kenya Revenue Authority
- Konadu, R., Ahinful, G.S., & Owusu-Agyei, S. (2021). Corporate governance pillars and business sustainability: does stakeholder engagement matter?. *International Journal of Disclosure and Governance*, 18(3), 269-289.

- Naiseh, M., Al-Thani, D., Jiang, N., & Ali, R. (2021). Explainable recommendation: When design meets trust calibration. *World Wide Web*, 24(5), 1857–1884.
- Nembe, J.K., Atadoga, J.O., Mhlongo, N.Z., Falaiye, T., Olubusola, O., Daraojimba, A.I., & Oguejiofor, B.B. (2024). The role of artificial intelligence in enhancing tax compliance and financial regulation. *Finance & Accounting Research Journal*, 6(2), 241-251
- Scott, A.O., Amajuoyi, P., & Adeusi, K.B. (2024). Theoretical perspectives on risk management strategies in financial markets: Comparative review of African and US approaches. *International Journal of Management & Entrepreneurship Research*, 6(6), 1804-1812
- Rizki, I. P., Hali, A., & Andi, K. (2024). The influence of transparency, governance, and financial accountability in managing financial reporting in the public sector. *International Journal of Educational and Life Sciences*, 2(10), 1165–1180
- Schaefer, C., Lemmer, K., Kret, K., Ylinen, M., Mikalef, P., & Niehaves, B. (2021). Truth or dare? How can we influence the adoption of artificial intelligence in Municipalities? Retrieved on 20/5/2025 from: <https://scholarspace.manoa.hawaii.edu/items/20651fe6-440c-4822-9608-8a9d670051dc>.
- Van der Zande, J., Teigland, K., Siri, S., & Teigland, R. (2020). The substitution of labor: From technological feasibility to other factors influencing the potential of job automation. In A. Larsson & R. Teigland (Eds.), *The digital transformation of labor: Automation, the gig economy and welfare* (pp. 53-73).
- U.S. Government Accountability Office (2024). Artificial Intelligence May Help IRS Close the Tax Gap. <https://www.gao.gov/blog/artificial-intelligence-may-help-irs-close-tax-gap>.
- Wirtz, B. W., & Muller, W. M. (2019). An integrated artificial intelligence framework for public management. *Public Management Review*, 21(7), 1076–1100