REGULATORY CHALLENGES CONFRONTING FOURTH GENERATION CORPORATE GOVERNANCE IN THE DIGITAL AGE

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ABSTRACT

The rapid advancement of artificial intelligence (AI), big data analytics, machine learning, and automated decision-making systems has introduced a new phase of corporate governance commonly described as fourth generation corporate governance. While these technological innovations have improved corporate efficiency and decision-making, they have also created significant regulatory challenges relating to cybersecurity oversight, digital risk management, algorithmic accountability, data governance, and corporate liability within technology-driven business environments. This article examines the extent to which Nigeria's corporate governance and regulatory frameworks are capable of addressing the emerging challenges associated with corporate digitalization in the digital age. Existing literature has largely focused on traditional corporate governance concerns such as shareholder protection, directors' duties, and sustainability, with limited attention devoted to the regulatory implications of fourth generation corporate governance in Nigeria. Using the doctrinal method of legal research, the article analyses relevant statutes, corporate governance codes, and scholarly materials, while drawing limited comparative insights from South Africa's technologically responsive governance framework particularly the recent King V Report Code of Corporate Governance. The article finds that Nigeria's current regulatory framework remains insufficiently equipped to effectively regulate digital corporate operations and AI-driven governance systems. It concludes that the transition to fourth generation corporate governance requires adaptive and technology-responsive regulatory reforms. The article therefore recommends enhanced board competence in technology, updating the existing regulatory framework and proper enforcement of the regulatory provisions.

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1.0 Introduction

The year 2020 presented a unique and critical turn-around in the world of businesses and corporation management across the globe. The emergence of Corona-Virus (COVID-19) took the corporate world by surprise and it brought about the need to embrace modern corporate governance.[58] It is therefore correct to say that the concept of corporate governance has undergone various changes over the course of different generations due to changing economic, social, and technological factors. These changes have resulted to evolution of corporate governance from its early managerial based models to the contemporary digital based model.

From the period of COVID-19 outbreak, the rapid developments in digital technologies have profoundly transformed the way in which corporations are managed and controlled, and as such, corporations have no option other than to reconfigure their management structures, regulatory frameworks, and governance systems in line with these technological trends. This has, in turn, given rise to what has been described as the concept of “fourth-generation corporate governance”, or "corporate governance 4.0," which is basically characterized by digitalization, AI, and big data.[59]

One may say that there is a connection between the concept of Industry 4.0 and fourth-generation corporate governance, but in reality, there are fundamental differences between the two concepts. Industry 4.0 refers to the technological revolution in the production and business processes.[60] On the other hand, fourth-generation corporate governance focuses on the legal and institutional response to these technological developments, particularly in the field of corporate governance,

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[58] P. Panwar, ‘The Impact of COVID-19 on Corporate Governance Practices and Legal Requirements’ *IJMR* [2024](6)(5). <https://doi.org/10.36948/ijfmr.2024.v06i05.28838> accessed on 17 May 2026.

[59] B. Ouabouch & T. Yahyaoui, ‘Artificial intelligence and corporate governance: A review of recent literature’ *IJSMES* [2025](4)(1) <https://doi.org/10.5281/zenodo.14731346> accessed on 17 May 2026.

[60] Bartodziej C.J., *The Concept Industry 4.0: An Empirical Analysis of Technologies and Applications in Production Logistics* (LLM Dissertation, University of Berlin, 2015). Pp. 27-29. <http://alvarestech.com/temp/Industry4.0/(BestMasters)%20Christoph%20Jan%20Bartodziej%20(auth.)-The%20Concept%20Industry%204.0%20_%20An%20Empirical%20Analysis%20of%20Technologies%20and%20Applications%20in%20Production%20Logistics-Gabler%20Verlag%20(2017)%20(1).pdf> Accessed 19 February 2026.

accountability, and regulatory compliance.[61] The emergence of fourth-generation corporate governance has, in essence, given rise to a transformation from traditional compliance-based corporate governance to technology-based corporate governance, in which the role of the board goes beyond traditional corporate governance into digital governance, technological risk management, and algorithmic accountability. These changes challenge the foundational assumptions of corporate governance law, which have historically been premised on human judgment, identifiable decision-makers, and traceable lines of responsibility.

In Nigeria, corporate governance is primarily shaped by a combination of legislative enactments and regulatory frameworks. Key statutes include the Companies and Allied Matters Act 2020 (CAMA 2020),[62] the Investments and Securities Act 2025,[63] and the Financial Reporting Council of Nigeria Act 2011,[64] alongside the Nigerian Code of Corporate Governance 2018.[65] In addition, sector-specific regulatory instruments such as the Banks and Other Financial Institutions Act 2020,[66] the Central Bank of Nigeria Corporate Governance Guidelines, 2023, and the PENCOM Code 2021,[67] among others, provide tailored governance standards for regulated industries. These legal and regulatory frameworks acknowledge, to a limited extent, the growing role of digital technology in corporate operations. For instance, CAMA 2020 permits the holding of electronic meetings,[68] the maintenance of company records in electronic form,[69] and the electronic execution of documents, thereby enhancing administrative efficiency and modernizing corporate practices.

Notwithstanding these developments, corporate governance in the digital age continues to face significant legal and regulatory challenges. Existing frameworks remain largely oriented towards traditional governance structures and do not adequately address emerging issues such as cyber-

[61] Y.L. Doz and A. Cuomo, ‘Corporate Governance 4.0: Facing Interdependency and Speed in a Complex World’ *INSEAD* (2017), p.2. <http://ssrn.com/abstract=3001847>Accessed 17 February 2026.
[62] Companies and Allied Matters Act, 2020 (Act No. 3), Federal Republic of Nigeria Official Gazette No. 119, Vol. 10.
[63] Investments and Securities Act, 2025 (Act No. 2A of 2025).
[64] Financial Reporting Council of Nigeria Act, 2011 (Act No.6 of 2011).
[65] Nigerian Code of Corporate Governance, 2018 (Federal Republic of Nigeria Official Gazette No. 138, Vol. 105)
[66] Banks and Other Financial Institutions Act, 2020 (Act No.5 of 2020)
[67] National Pension Commission (PenCom) (2021). *Guidelines on Corporate Governance for Pension Fund Operators*. Abuja, Nigeria: PenCom.
[68] CAMA 2020, Section 240(2)
[69] CAMA 2020, Section 861.

security risks, data governance, and algorithmic decision-making.[70] Consequently, corporate boards are increasingly required to oversee complex technological infrastructures while ensuring compliance with both established governance standards and evolving digital expectations. This raises critical questions regarding the adequacy of Nigeria's corporate governance framework in responding to the demands of fourth-generation corporate governance.[71] It is instructive to note that the categorization of corporate governance to four generations is for conceptual analysis and evaluation purposes as there is no established theory for such categorization.

Against this background, this article examines the concept of fourth-generation corporate governance and critically evaluates the legal and regulatory challenges affecting its implementation in Nigeria's digital economy. It further assesses the extent to which existing corporate governance frameworks can accommodate technology-driven corporate practices and proposes reforms aimed at strengthening digital governance oversight.

2.0 Conceptual Clarification

This section provides the intellectual foundation for the study by identifying and explaining the key concepts, ideas, and principles relevant to the subject matter. To avoid repetition and multiple discussions of related terms, the section primarily examines the concept of corporate governance, while other relevant concepts are discussed within the subsequent sections of the study where they arise contextually.

2.1 Meaning of corporate governance

Corporate governance is a unique, complex, and multifaceted concept.[72] It is universal, multi-dimensional, and multi-disciplinary in application and interpretation.[73] The word corporate

[70] Bingbing Bi, 'International Corporate Governance in the Digital Age: Legal Challenges of Privacy Protection and Data Governance' Proceedings of the 2024 2nd International Conference on Finance, Trade and Business Management, Advances in Economics, Business and Management Research, p. 42 <https://doi.org/10.2991/978-94-6463-546-1_6> accessed on 11 May 2026.

[71] Ibid.

[72] Ekundayo V. & Olawale F., '*Governance Public, Private and Not-for-profit*' (University Press Plc, 2023). pp. 13-16; Danjuma N, '*The Role of Company Secretary in Corporate Management*' (Rev. edn. HERN Publisher Plc., 2009) p.237.

[73] M.Z. Hossain, *et. al,* 'Corporate Governance as a Global Phenomenon: Evolution, Theoretical Foundations, and Practical Implications' *Journal of Financial Risk Management* (2024)(13) 342-375. <https://doi.org/10.4236/jfrm.2024.132017> Accessed 28 December 2025.

governance is a combination of two basic words, 'Corporate' and 'Governance'. Consequently, corporate governance is concerned with prescribing procedures and practices for ensuring that companies are run in a way that they can achieve their set objectives.

It is important to state that the concept of corporate governance lacks a definite statutory definition. However, according to the Organisation for Economic Co-operation and Development Principles of Corporate Governance, *corporate governance involves a set of relationships between a company's management, board, shareholders, and stakeholders. It also provides the structure and systems through which the company is directed, its objectives are set, and the means of attaining those objectives and monitoring performance are determined.*[74]

Corporate governance has attracted extensive scholarly attention due to its significance in ensuring accountability, protecting investors, and promoting sustainable corporate performance. Although the term lacks a single universally accepted definition, most perspectives converge on the mechanisms through which corporations are directed, controlled, and made accountable to stakeholders. It also connotes the totality of the way business entities of a country are managed as against the public sector.[75] Put differently, corporate governance defines an organization's policies, processes, and guidelines.

Therefore, the term corporate governance is susceptible to various definitions as it may be viewed from different perspectives.[76] To Danjuma,[77] corporate governance is an '*internal system encompassing polices, processes, and people, which serve the needs of shareholders and other stakeholders by directing and controlling management activities with good business objectivity, accountability, and integrity.*' From this definition, corporate governance may be conceptualized as an internal framework within an organization that integrates policies, processes, and people to ensure effective direction, control, and accountability. Danjuma's view shows that, corporate governance primarily functions to advance shareholders' interests, while secondarily addressing those of other relevant stakeholders.

[74] OECD, *G20/OECD principles of corporate governance 2023*. OECD Publishing. <https://doi.org/10.1787/ed750b30-en> accessed on 12 May 2026.

[75] Danjuma N, *The Role of Company Secretary in Corporate Managemen*t (Revised edn. HERN Publisher Plc, 2009), p.238.

[76] Ekundayo V. & Olawale F., (n.15) 2.

[77] Danjuma N, (n.18)

To further support his perspective, Sternberg and Ntim[78]view corporate governance from the shareholders' benefit perspective, meaning the center of focus is the shareholders' interest and the company must be governed in a way to ensure the benefit of the shareholders. Put differently, it is the governance of the companies to maximize satisfaction of the interest of the shareholders. In contrast, the broader perspective views corporate governance as being the heart of both a market economy and a democratic society.[79] This broader approach reflects the modern understanding of corporate governance as an inclusive system that extends beyond shareholders to other stakeholders affected by corporate activities. The development of various theories of corporate governance, particularly stakeholder theory, has further highlighted the need to shift from shareholder-centric governance to stakeholder-centric governance.

Corporate governance as a concept has witnessed tremendous development and adoption. As rightly stated by Castrillón and Alfonso,[80]'*the reason for the global interest in corporate governance is that it underpins a company's operating framework. As it usually benefits the owners, since they are committed to using the principles and mechanisms, which in the broadest sense amounts to an effective monitoring of the activities of a company, particularly when the principles of disclosure and transparency are adopted.'*

From whichever angle one look at it, corporate governance from the broader perspective is an inclusive system which is beneficial not only to the shareholders or the Board of directors, but to all the relevant stakeholders inclusive of the government and the community where the company is located.

3.0 Evolution of Corporate Governance

Tracing the evolution of corporate governance is a tedious task. The reason is that there is no clear history of corporate governance. It is also unlikely that such a history will ever exist because of the vastness of the concept. Nonetheless, the concept of corporate governance has

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[78] E. Sternberg, *Corporate Governance: Accountability in the Marketplace* (2nd edn. Institute of Economic Affairs, 2004); Ntim C.G., 'Defining Corporate Governance: Shareholder versus Stakeholder Models' *Global Encyclopedia of Public Administration, Public Policy, and Governance* (Springer International Publishing, 2017) <https://www.researchgate.net/publication/318166724_Defining_Corporate_Governance_Shareholder_Versus_Stakeholder_Models>Accessed 26 September 2025.

[79] Danjuma N, (n. 18) 237.

[80] G. Castrillón and M. Alfonso, 'The Concept of Corporate Governance' *Revista Científica "Visión de Futuro"* [2022](25)(2) <https://www.redalyc.org/journal/3579/357966632010/357966632010.pdf>Accessed 26 December, 2025.

been in existence since the inception of corporate structures and management, which likely created the potential for conflicts between investors and managers.[81] According to Bob Tricker, corporate governance has evolved significantly since the early days of the first joint-stock companies in the 16th and 17th centuries, in which shared ownership separated shareholders from management and thus created the need for basic accountability measures like oversight and transparency.[82]

Corporate governance has developed through different eras or phases, all of which were characteristic of their economic and institutional environments. Thus, the evolution of corporate governance has been a dynamic process, driven by shifts in economic paradigms, technological advancements, and changing societal expectations.[83] These eras or phases can be grouped into three generations before the development of the fourth. Suffice to say that the generations of corporate governance is not a theory but rather a concept that explain the development of corporate governance from its perceived inception to its current state. So, the evolutional concept is similar to historical development.

First generation: Basic accountability

The first generation of corporate governance marked the rudimentary phase of oversight in early corporations, prioritizing strict legal compliance and basic safeguards amid the risks of separated ownership and control. It highlighted the importance of legal compliance, simplicity in board structures, and shareholder protection from fraud, all of which were driven by scandals in joint-stock companies.[84]The metrics in use were financial integrity and audit-related measures, along with limited non-executive positions. In countries like Nigeria, this period reflected Anglo-Saxon models in the post-independence period, focusing on legal compliance over principles via ordinances like Nigeria's 1912 Companies Ordinance.[85]

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[81] B.R. Cheffins, 'The History of Corporate Governance' *European Corporate Governance Institute* (2012) p.1 <https://www.ecgi.global/sites/default/files/working_papers/documents/SSRN-id1975404.pdf>Accessed 30 January 2026.

[82] Tricker B, *The Evolution of Corporate Governance*. (Cambridge University Press, 2021) available at <https://doi.org/10.1017/9781108974653> Accessed 5 October 2025.

[83] M. Goranova, *et. al,* 'Corporate Governance and the Fourth Industrial Revolution: Promises and Challenges' *In Handbook of Research on Strategic Leadership in the Fourth Industrial* (2024) 475–508 <https://www.elgaronline.com/doi/10.4337/9781802208818.00030>Accessed 1 February 2026.

[84] Tricker B, (n.25)

[85] A.A. Afolabi, 'Examining Corporate Governance Practices In Nigerian And South African Firms' *European Journal of Accounting Auditing and Finance Research* [2015](3)(1)11 <https://www.eajournals.org/wp-

During this era, managerial dominance characterized corporate boards, with shareholders largely passive.[86] Boards often rubber-stamped management decisions, limiting top-level accountability.[87] As corporations expanded and ownership dispersed, the need arose to protect shareholders from managerial abuse.

This environment laid the foundations of modern corporate governance, influenced heavily by the agency theory developed Jensen and Meckling,[88]which highlighted the separation of ownership from control. Early governance reforms began to stress managerial accountability, shareholder oversight, and greater financial transparency through mandatory disclosure,[89] setting the stage for subsequent generations of governance practices.

Second Generation: Shareholder primacy

The second generation of corporate governance emerged in response to major corporate scandals and financial crises, which exposed significant deficiencies in internal controls and regulatory oversight. The second-generation corporate governance introduced compliance, and legal and regulatory reforms, particularly in the area of managerial dominance, weak board oversight, and inadequate accountability mechanisms.[90] This era was largely shaped by corporate scandals and financial crises in the late twentieth and early twenty-first centuries, including the collapses of Enron, WorldCom, and Lehman Brothers, which exposed significant failures in internal controls, transparency, and ethical conduct.[91] Consequently, greater emphasis was placed on strengthening board accountability, enhancing regulatory oversight, and improving compliance with corporate

content/uploads/Examining-Corporate-Governance-Practices-in-Nigerian-and-South-African-Firms.pdf> accessed 30 January 2026

[86] B.R. Cheffins, 'The History of Corporate Governance' *European Corporate Governance Institute* (2012)1-23, <https://www.ecgi.global/sites/default/files/working_papers/documents/SSRN-id1975404.pdf>Accessed 30 January 2026.

[87] R.K. Morck and L. Steier, 'The Global History Of Corporate Governance: An Introduction' National Bureau Of Economic Research Working Paper 11062 <https://www.researchgate.net/publication/5185758_The_Global_History_of_Corporate_Governance_An_Introduction#read>Accessed 12 March 2026.

[88] Ekundayo V. & Olawale F., (n. 15), 4.

[89] G. Gorton and F. Schmid, 'Corporate governance, ownership dispersion and efficiency: Empirical evidence from Austrian cooperative banking' *Journal of Corporate Finance*, [1999](5)(2) 119-140 <https://www.sciencedirect.com/science/article/pii/S0929119998000194>Accessed on 12 March 2026.

[90] O. Makinde, 'The Nigerian Corporate Governance Challenge: Inadequacy Of Laws Or Question Of Enforcement?' *The Gravitas Review Of Business & Property Law*, [2020](11)(4)2 <https://www.researchgate.net/publication/348298038_The_Nigerian_Corporate_Governance_Challenge_Inadequacy_of_Laws_or_Question_of_Enforcement> Accessed 2 February 2026.

[91] J. Cohen, *et al*., 'Corporate Governance in the Post Sarbanes-Oxley Era: Auditors' Experiences' *Contemporary Accounting Research* [2010](27)(3)753. <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1911-3846.2010.01026.x>Accessed 2 February 2026.

governance standards rather than simple fiduciary duties. [92] As a result, governance codes such as the UK Combined Code and the Sarbanes-Oxley Act 2002 (SOX) in the United States were introduced.[93]

As countries around the world began to reform their corporate governance frameworks following the various corporate scandals, Nigeria was not left out. In response, the country introduced the Securities and Exchange Commission (SEC) Code of Corporate Governance in 2003, which represented Nigeria's first formal attempt to institutionalize corporate governance standards. [94]

Third Generation: Stakeholder Approach

While the second generation of corporate governance primarily focuses on compliance and fraud prevention, the third generation of corporate governance emphasizes contribution by expanding a company's duties and responsibilities beyond shareholders to a broader range of stakeholders, including employees, suppliers, customers, communities, and the environment.[95]This basically align with the stakeholders' theory of corporate governance as propounded by Freeman[96]

It is worth noting that this generation introduced a model that increasingly integrates corporate social responsibility and sustainable development into corporate governance and administration, emphasizing the long-term impacts of corporate activities on society and the environment, thereby underscoring the need to adopt environmental, social and governance (ESG) objectives.[97] Furthermore, this generation is grounded in stakeholder theory, which argues that corporations should balance the interests of all parties, including creditors, employees,

[92] C.S.P. Dak-Adzaklo and R.M.K. Wong, 'Corporate governance reforms, societal trust, and corporate financial policies' *Journal of Corporate Finance,* (2024)(84), <https://www.sciencedirect.com/science/article/pii/S0929119923001566>Accessed 2 February 2026.

[93] S. Liaquat and A, Mehmood, 'The Enron Scandal (2001): Corporate Governance, Accounting Fraud and Legal Implications' *The Critical Review of Social Sciences Studies* [2025](3)(4)1522 <https://www.researchgate.net/publication/397882870_The_Enron_Scandal_2001_Corporate_Governance_Accounting_Fraud_and_Legal_Implications>Accessed 3 March 2026.

[94] M. Agamah, 'The Evolution of Corporate Governance in Nigeria: 1886–2018' *European Journal of Business and Management Research* [2024](9)(5)186 <https://www.researchgate.net/publication/385652033_The_Evolution_of_Corporate_Governance_in_Nigeria_1886-2018>Accessed on 12 March 2026.

[95] I. Jide, *et al.*, 'A Contextual Review of Stewardship Theory in Corporate Governance: Implications for Business Practices' *Premier Journal of Business and Management* (2025) <https://premierscience.com/pjbm-24-652/>Accessed 15 March 2026.

[96] Freeman R.E, *Strategic Management: A Stakeholder Approach.* (Pitman Press. 1984).

[97] B.O. Abduraheem, *et al.*, 'Corporate Governance and Social Responsibility as Strategies for Sustainable Business' *International Journal of Scientific Research in Social Sciences & Management Studies* [2025](8)(2) 109-118 <https://internationalpolicybrief.org/wp-content/uploads/2025/06/ARTICLE-9-2.pdf>Accessed 15 March 2026.

administrators, clients, suppliers, authorities, and communities, rather than prioritizing the sole interests of shareholders.[98]

Despite the progressive contributions of the third-generation corporate governance in promoting stakeholder inclusiveness, sustainability and corporate social responsibility, this framework has become inadequate in addressing the complexities introduced by the emerging digital transformation. These technological developments have introduced governance challenges that extend beyond human discretion and traditional regulatory mechanisms.[99]Also, the third-generation framework remains largely grounded in traditional assumptions about corporate operations and human decision-making. The rapid rise of digital technologies has introduced new complexities that these frameworks were not designed to address, thereby necessitating the emergence of a fourth generation of corporate governance.

Fourth Generation Governance

The fourth generation of corporate governance is heavily influenced by the digital age and the Fourth Industrial Revolution.[100] This contemporary iteration moves beyond traditional models, integrating digital technologies into decision-making, service delivery, and stakeholder engagement, while simultaneously introducing complex legal and regulatory challenges.[101]

Undoubtedly, the digital transformation impacts corporate operations by enhancing efficiency, transparency, and decision-making processes through data and algorithms.[102] For example, higher levels of digitization have been shown to reduce corporate fraud by improving detection rates and mitigating information asymmetry.[103] Again, the emergence of algorithmic decision-making, which refers to the use of automated systems and AI-driven models to make or influence

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[98] Castrillón and Alfonso (n.23).

[99] W. Fauzzia, *et al*., 'Corporate Governance in the 21st Century: How Technological Disruption is Shaping Corporate Control' *Indonesian Management and Accounting Research* [2025](24)(1) 61-81 <https://www.researchgate.net/publication/396232692_Corporate_Governance_in_the_21st_Century_How_Technological_Disruption_is_Shaping_Corporate_Control>Accessed 16 March 2026.

[100] M. Goranova (n.26)

[101] M. Fahlevi, *et. al*, 'Corporate Governance in the Digital Age: A Comprehensive Review of Block chain, AI, and Big Data Impacts, Opportunities, and Challenges' *ICENIS* [2023](448)1-10 <https://doi.org/10.1051/e3sconf/202344802056>Accessed 13 March 2026.

[102] M. Ziniuk, *et. al*, 'Digital Transformation of Corporate Governance' *Financial and Credit Activity Problems of Theory and Practice,* [2022](5)(46) 300–310 <https://doi.org/10.55643/fcaptp.5.46.2022.3807>Accessed 13 March 2026.

[103] ibid

corporate decisions.[104] These may include credit approvals, risk assessments, compliance monitoring, and even elements of strategic planning.

While such systems enhance speed, consistency, and data-driven accuracy, they also introduce concerns about algorithmic bias, opacity, and the potential erosion of human judgment in governance processes.[105] Consequently, boards and regulators must increasingly understand and oversee not only human managers but also the algorithms that shape corporate outcomes.

It is essential to make a distinction between fourth generation corporate governance and the process of digitalization. Digitalization can be defined as the process of embracing technology to enhance business processes.[106] On the other hand, fourth generation corporate governance simply means the process of embedding technology into the structure of corporate governance. This is a very important distinction since it is worth noting that not all digitally enabled business organizations have a fourth generation corporate governance structure. This generation of corporate governance is not simply an evolution of previous models but is actually a qualitative transformation. It is a redefinition of corporate governance that includes the integration of technological systems into its very core system and thus into its key areas of oversight, decision-making, and responsibility.

As fourth-generation corporate governance makes corporations integrate Artificial Intelligence, blockchain, and digital platforms, a conflict arises with traditional, centralized legal frameworks, because the technological shift has introduced new governance realities that these frameworks were not designed to address.[107] Furthermore, the rapid pace of technological innovation has led to regulatory lag, with existing laws and corporate governance codes failing to keep pace with emerging digital business models.[108]

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[104] S. Vignesh and D.N. Nagarjun, 'Legal Challenges of Artificial Intelligence in India's Cyber Law Framework: Examining Data Privacy and Algorithmic Accountability Via a Comparative Global Perspective' *International Journal For Multidisciplinary Research* [2024](6)(6)2 <https://doi.org/10.36948/ijfmr.2024.v06i06.31347> Accessed 13 March 2026.

[105] ibid

[106] M. Rachinger, *et. al*, 'Digitalization and its Influence on Business Model Innovation' *Journal of Manufacturing Technology Management* (2018) <https://doi.org/10.1108/JMTM-01-2018-0020>accessed 13 March 2026.

[107] B. Takawira and D. Pooe, 'Corporate Governance and Digitalisation: A Bibliometric Systematic Literature Review' *Corporate Law & Governance Review* [2025](7)(3) 271-282 <https://virtusinterpress.org/IMG/pdf/clgrv7i3sip12.pdf>Accessed 16 March 2026

[108] Society For Corporate Governance Nigeria, 'Corporate Governance in the Age of Digital Transformation' *Journal of Corporate Governance* [2021](12)(2)8-35. <https://corpgovnigeria.org/wp-content/uploads/2022/03/SCGN_Corporate-Governance-Journal_2021_v3.pdf>Accessed 13 March 2026.

This creates uncertainty, governance gaps, and enforcement challenges in the regulation of modern corporations. It is within this context that the fourth-generation corporate governance as a distinct and necessary governance paradigm focuses on regulating digitally driven corporate operations while seeking to align corporate accountability, transparency, and regulatory compliance with the realities of digitalization. This generation, therefore, responds directly to the legal and regulatory gaps created by rapid technological integration.

4.0 Regulatory Framework for Corporate Governance In Nigeria

The basic legal foundation of corporate governance in Nigeria is largely based on statutory laws that establish the structure of corporations, the system of accountability, and the extent of regulatory oversight. The key statutory laws are the CAMA 2020,[109] which is the main governing law for companies. It is the main piece of legislation governing companies. Importantly, CAMA 2020 reflects a gradual shift towards digitalization of the corporate law regime through incorporation of electronic meetings,[110] electronic filing (e-filing), and digital documentation by the Corporate Affairs Commission.[111]

To complement the above framework is the Investments and Securities Act 2025,[112] which governs the capital market and provides for the protection of investors by ensuring transparency and integrity through disclosure requirements governed by the Securities and Exchange Commission. The Act modernized Nigeria's capital market to align with global standards and technological advancements. Although the above laws provide for the digitalization of financial reports by ensuring electronic disclosure requirements, the laws are largely conventional in nature and weakly enforced.

Therefore, it can be concluded that the legal framework in Nigeria has made significant but limited progress in embracing digital governance technologies to meet fourth-generation corporate governance requirements.

[109] Companies and Allied Matters Act, Act No.3 of 2020.
[110] Section 240(2) of CAMA.
[111] Section 861 of CAMA.
[112] Investments And Securities Act, 2025, Act No. 2 of 2025.

5.0 Corporate Governance in the Digital Age

The digital age has significantly expanded the scope of directors' duties under CAMA 2020, particularly in relation to care, loyalty, and oversight. Traditionally, the duty of care required directors to act with reasonable diligence; however, in a technology-driven environment, this standard now implies a level of digital competence, or at least the ability to engage meaningfully with technological risks. Comparative jurisprudence is instructive. In *Smith v. Van Gorkom,*[113] directors were held liable for failing to adequately inform themselves before making a decision, underscoring that uninformed judgment constitutes a breach of duty. Applied to digital governance, failure to understand cybersecurity risks or algorithmic systems may similarly amount to negligence. Also, the duty of loyalty now extends to technology related conflicts of interest, including relationships with digital vendors or misuse of corporate data. The duty of oversight has also evolved, as reflected the various codes of corporate governance which recognize that directors must ensure the existence of adequate information and reporting systems. In the digital context, this includes oversight of AI systems, data infrastructure, and automated compliance mechanisms.

Digital transformation has also change risk governance in various aspects, especially in relation to cybersecurity, data governance, and internal controls. Failure to establish adequate monitoring systems can result in liabilities for breach of duty. Thus, in the case of *Oteri Holdings Ltd v. Mofta West Africa Ltd & Ors,*[114] it was held that directors owe a duty to the company to use their power to act in the best interests of the company and maintain a high standard of care, skill or diligence, and to avoid conflicts of interest. Modern internal control relies majorly on automated monitoring and real-time reporting. Therefore, cybersecurity systems and data protection systems must be prioritised. It is essential that directors ensure that adequate measures are taken to protect companies against cyber threats. Today's internal controls include automated systems that can monitor in real-time; however, overdependence on these systems can result in further liabilities. Thus, a hybrid approach to digital risk governance becomes essential.

Taken together, the developments of fourth generation corporate governance demonstrate that corporate governance in the digital age is no longer confined to traditional legal doctrines but

[113] Smith v. Van Gorkom 488 A.2d 858 (Del. 1985)
[114] Oteri Holdings Ltd v. Mofta West Africa Ltd & Ors (2021) LPELR- 54853(CA) pp.74-75.

must evolve to address the ethical, technological, and societal implications of modern corporate activity.

6.0 Challenges in Implementing Fourth Generation Corporate Governance in Nigeria

The emergence of fourth generation corporate governance majorly orchestrated by the COVID-19 has highlighted some of the limitations that exist within the current major legal and regulatory frameworks in Nigeria. Although, as earlier pointed out, there is a well-structured framework for corporate governance as provided by the country's corporate governance law and code, it is largely limited to conventional forms of corporate governance. This is despite the fact that there is a significant lack of ability on the part of these frameworks to cope with the challenges that have been introduced by ever advancing technology. The limitations of these frameworks can be identified under several key issues, such as:

1. Regulatory Fragmentation: One of the most significant challenges facing corporate governance in Nigeria is the fragmentation of governance regulation across multiple institutions. In Nigeria, several regulatory bodies oversee corporate governance, including the Financial Reporting Council of Nigeria, the Central Bank of Nigeria, the Securities and Exchange Commission, and the Nigerian Exchange Group. Each of these regulators issues governance guidelines applicable to specific sectors, which may sometimes result in overlapping or inconsistent governance requirements.

This regulatory fragmentation creates compliance challenges for companies operating across multiple sectors. For instance, a financial institution listed on the Nigerian Exchange must comply simultaneously with the governance rules issued by the Central Bank of Nigeria, the Securities and Exchange Commission, and the Financial Reporting Council of Nigeria.

In the digital era, this fragmentation becomes even more problematic because technology-related risks cut across all sectors of the economy. This is particularly evident where the regulatory framework lacks clear legal definitions of responsibility for algorithmic decisions and clarity about the scope of digital disclosure obligations. Consequently, the absence of a coordinated regulatory approach may weaken the effectiveness of digital governance oversight in Nigeria.[115]

[115] Bingbing Bi (note 13) 45.

Despite the aforementioned challenges, it is noteworthy to appreciate the efforts of the Nigerian government in the modernization and harmonization of the country's laws and regulations. Indeed, the various legislative changes and policy developments in the country's laws, especially in the areas of cyber security laws and insurance laws, among others, are a reflection of the government's desire to update outdated laws by ensuring they are consistent with the latest global standards. For example, the Nigeria Custom Service Act, 2023[116]by provision of section 280 repealed and harmonizes multiple Acts applicable to the Service. It is apparent from the aforementioned changes that the government is increasingly recognizing the imperative of developing a coordinated system of regulations that are sensitive to the complexities of digital corporate governance. Although the aforementioned changes are still limited, they are an improvement from the previous situation and offer a basis upon which the development of digital governance laws can be built.[117]

Additionally, the international nature of digital operations allows data to traverse borders, thereby giving rise to intricate legal complexities surrounding the applicability of laws from various countries. This creates "conflict of laws" wherein the laws of various countries may apply to a given data set.[118] It requires a complex approach to solve the problem.

Overall, regulatory fragmentation still remains a challenge in Nigeria that need to be addressed.

2. Accountability Gaps in AI-driven Decision-making: One of the greatest challenges facing corporate governance in the fourth generation is the emergence of accountability gaps arising from the use of AI in corporate decision-making processes. The basic underpinning of corporate governance structures has always been predicated on the notion that corporate decisions are made by identifiable actors whose behavior can be evaluated in relation to established legal parameters. However, the use of AI systems in corporate processes has created difficulties in corporate accountability since AI systems are capable of making decisions on their own or

[116] Nigeria Custom Service Act of No. 35, 2023.

[117] Hongkang Xu, 'Regulatory fragmentation and internal control weaknesses' *Journal of Accounting and Public Policy* (2024)(44)<https://doi.org/10.1016/j.jaccpubpol.2024.107191> accessed 15 May 2026.

[118] S. Vignesh and D.N. Nagarjun (n.47).

through semi-autonomous processes.[119] This has created difficulties in corporate accountability since AI systems function as "black boxes."

The problem of attributing blame becomes even more complicated in the face of the dispersion of decision-making authority among various parties, including directors, management, software developers, and third parties.[120] In such a scenario, it becomes very difficult to pinpoint who would be responsible in the event of errors, prejudice, or adverse outcomes. Such a scenario gives rise to significant doctrinal concerns in terms of the scope of delegation in corporate governance.[121] Although directors can delegate powers, there are concurrent requirements of care, skill, and diligence. In the face of the use of AI systems, which are not fully understood by directors, there exists a tension between delegation and abdication of responsibility, thus creating a gap in the law.

Moreover, there are concerns relating to the issue of transparency and regulatory oversight in AI-driven decision-making. Good corporate governance calls for decisions to be subject to scrutiny; however, the unexplainable nature of AI-driven decisions makes it hard to fulfill this requirement. This not only affects internal corporate governance but also affects regulatory oversight, as it becomes hard to determine whether there has been compliance with set standards. Thus, there is a need to come up with laws that will govern AI-driven decisions, including the extent of directors' responsibilities and the structures within which AI-driven decisions can be made in a transparent manner.

3. Absence of a Comprehensive Digital Governance Framework: the lack of a comprehensive digital governance structure remains a challenge in Nigeria. The current corporate governance structures and codes, including those relating to directors’ responsibilities and risk management, were developed in an age where human intervention was dominant. As such, they do not address key issues such as accountability in algorithms, AI, and data-driven decisions. As Inomovich

[119] P. Matai, ‘The Imperative of AI Governance: Steering BFSI towards Responsible Innovation’ *Journal of Artificial Intelligence & Cloud Computing,* [2024](3)(1)3.<https://doi.org/10.47363/jaicc/2024(3)319>Accessed 11 March 2026.

[120] A. Rachovitsa and N. Johann, ‘The Human Rights Implications of the Use of AI in the Digital Welfare State: Lessons Learned from the Dutch SyRI Case’ *Human Rights Law Review* [2022](22)2. <https://doi.org/10.1093/hrlr/ngac010>Accessed 10 March 2026.

[121] Y.J. Inomovich, ‘Legal Regulation of the Use of Artificial Intelligence in Corporate Governance’ *Uzbek Journal of Law and Digital Policy* [2023](1)(3)11<https://doi.org/10.59022/ujldp.94>Accessed 8 March 2026.

stated[122] *'Legal and regulatory frameworks are struggling to keep pace with the rapid technological evolution.'* The lack of clear regulation in this area is a cause for concern, particularly in instances where corporate decisions are made in an environment where algorithms and AI may be unclear and hard to interpret. This creates a need for anticipatory governance and adaptive regulatory approaches to oversee emerging technologies.[123]

Also, the extensive use of data and algorithms in corporate processes raises concerns about data privacy and the potential for algorithmic bias. As Schäfer, *et. al,* stated that 'data-privacy regulation can constrain collection of data from smart, connected products for data driven businesses, recent research has called for further investigation into data privacy'[124]This means that there is need to balance between data protection and technological innovation. Consequently, legal frameworks need to address how data is collected, processed, and utilized, especially given the inherent relational nature of genetic information and the challenges of data sovereignty across international borders.[125]

4. **Limited Digital Governance Provisions in Governance Regulations**: The absence of explicit digital governance provisions within Nigeria's primary corporate governance framework constitutes a significant challenge to the implementation of fourth generation corporate governance. The use of technological tools in corporate operations exposes organizations to various digital risks, including cyber security threats. At the same time, the adoption of AI may also create accountability concerns in corporate decision-making.

Although the Nigerian Code of Corporate Governance 2018 provides a comprehensive governance structure for companies, it does not specifically address issues such as AI governance, cybersecurity oversight, algorithmic decision-making, digital ethics, and other governance concerns arising from the use of technology in corporate management.

[122] ibid

[123] Y. Walter, 'Managing the race to the moon: Global Policy and Governance in Artificial Intelligence Regulation: A Contemporary Overview and an Analysis of Socioeconomic Consequences' *Discover Artificial Intelligence* [2024](4)(1)13 <https://doi.org/10.1007/s44163-024-00109-4>Accessed 13 March 2026.

[124] F. Schäfer, *et. al,* 'Data-driven business and data privacy: Challenges and measures for product-based companies' *Business Horizons* [2023](66)(4) 494 <https://doi.org/10.1016/j.bushor.2022.10.002>Accessed 8 March 2026.

[125] S. Vignesh and D.N. Nagarjun (n.47)

While the National Data Protection Act, 2023[126] provides a general legal framework for data protection in Nigeria, its provisions apply broadly across sectors. They are not specifically tailored to address the governance implications of digital technologies within corporate organizations. Consequently, there remains a need for a regulatory framework specifically designed to address the intersection between digital technologies and corporate governance.

Therefore, as corporations increasingly rely on AI-driven systems and automated decision-making processes, governance codes must evolve to guide board responsibilities in overseeing these technologies. Hence, without guidance, corporate boards may lack the regulatory clarity necessary to manage digital risks effectively.[127]

In addition, the issue of regulatory gap persists. Indeed, the pace of technological innovations far surpasses the ability of the law to react to such changes. Consequently, corporate governance structures are often unable to cope with new risks related to AI, big data, and digital platforms. Such regulatory gap does not only bring about uncertainties but also places corporations and their respective stakeholders at risk of unregulated risks, thus undermining the effectiveness of corporate governance structures.

5. **Skills Gap in Corporate Boards**: Fourth generation corporate governance requires boards to possess a reasonable level of technological expertise to supervise digital transformation and technological risks within an organization. However, many corporate boards in Nigeria continue to be dominated by directors with primarily legal, financial, or public administration backgrounds. While those skills remain essential, modern governance requires expertise in information technology, cybersecurity, digital risk management, and data analytics.[128]

As a result, many boards lack members with specialized digital competencies, which often forces companies to rely heavily on external consultants rather than developing internal technological capacity at the board level. The absence of technological expertise in the boardroom may limit

[126] Nigeria Data Protection Act, 2023 (Act No. 16 of 2023)

[127] N. Nahum *et al*, 'Corporate governance for digital transformation: The role of ownership and the board of directors, Technological Forecasting and Social Change' *Technological Forecasting and Social Change* (2026)(223) 124494 <https://doi.org/10.1016/j.techfore.2025.124453> accessed 13 May 2026.

[128] K. Akinsola, 'The Evolving Role of Corporate Governance in Shaping Business Practices and Legal Accountability in the 21st Century' (2025) <https://dx.doi.org/10.2139/ssrn.5115523> accessed 13 May 2026.

directors' ability to effectively oversee digital transformation initiatives and properly assess the risks associated with technological innovation.[129]

This skills gap may be attributed partly to resistance to digital transformation within traditional corporate governance structures. In many organizations, governance practices are still influenced by conventional governance logic and a relatively weak digital culture, which slows the integration of technological expertise into board composition.

6. Weak Enforcement of Governance Codes: The Nigerian Code of Corporate Governance, 2018 operates on the "Apply and Explain" principle, which requires companies to explain how they have implemented governance principles rather than strictly comply with detailed prescriptive rules. While this principle-based approach encourages flexibility and allows companies to adapt governance practices to their specific circumstances, it may also weaken enforcement where companies provide superficial explanations without implementing substantive governance reforms. In such situations, compliance may become largely formalistic rather than effective.[130]

Therefore, an effective fourth generation corporate governance requires stronger monitoring and enforcement mechanisms to ensure that companies genuinely integrate digital risk oversight into their governance structures. Without robust enforcement, governance codes may fail to adequately address emerging challenges associated with digital transformation and technological innovation.

7.0 Comparative Insights from South Africa

The effectiveness of any regulatory system lies in its capacity to respond to emerging developments through timely amendments or through the adoption of flexible provisions capable of accommodating new realities without constant legislative revision. In the context of corporate governance, this adaptability is particularly important given the rapid pace of technological change and its impact on corporate operations.

A comparative assessment of corporate governance frameworks in developed jurisdictions, such as South Africa, reveals a more proactive and structured approach to addressing the challenges

[129] ibid.
[130] Bingbing Bi (note 13).

posed by technology-driven corporate operations.[131] While the Nigerian Code of Corporate Governance has struggled to keep pace with evolving governance trends several years after its introduction, South Africa has demonstrated greater responsiveness through periodic updates to its governance codes. For instance, the King V Code of Corporate Governance[132] emphasizes board effectiveness, risk management, and the need for directors to possess the requisite skills and experience to oversee emerging risks, including those associated with digital transformation. Although the Code does not expressly mandate technological expertise, its provisions on board competence and internal control implicitly require directors to engage with digital governance issues.[133]

In contrast, the Nigerian corporate governance framework, while robust in its traditional orientation, remains largely underdeveloped in addressing the complexities of fourth generation corporate governance. Existing laws and governance codes continue to focus on conventional issues such as board structure, accountability, and financial reporting, with limited attention to digital governance, algorithmic accountability, and AI-related risks. Although recent reforms in areas such as cybersecurity and sector-specific regulation indicate a growing awareness of the need for modernization, a comprehensive and coordinated approach to digital corporate governance is still lacking.[134] This comparative gap underscores the need for Nigeria to draw from global best practices by strengthening board-level technological competence, enhancing regulatory coordination, and developing clear frameworks for overseeing technology-driven corporate decision-making.

8.0 Conclusion

Corporate governance in Nigeria has evolved significantly over the past two decades, and recent legislative developments reflect the realities of the country's rapid digitalization across sectors, including corporate governance. However, as corporations increasingly rely on technologies such as AI and digital platforms, Nigeria's corporate governance framework may require further reforms to address the legal and governance implications of these developments effectively.

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[131] W.M. Baloyi, 'Exploring the Key Challenges Faced By the South African Public Sector in Adopting Artificial Intelligence' *International Journal Of Research And Innovation In Social Science* [2025](IX)(X) 1369-1376. <https://dx.doi.org/10.47772/IJRISS.2025.910000117> accessed 17 May 2026.

[132] Released on 31 October 2025 and became enforceable in 1 January 2026.

[133] N. Nahum (note 70) 11.

[134] N. Nahum, (note 70) 11-12.

Under Nigeria's existing corporate governance regime, the framework remains largely rooted in third-generation corporate governance, which primarily emphasizes transparency, accountability, and stakeholder protection. While these principles remain essential, they do not adequately address the complex governance risks introduced by digital transformation.

Against this backdrop, fourth-generation corporate governance requires corporations to integrate technological oversight into board responsibilities, risk management systems, and regulatory compliance structures. Therefore, there is a need to update existing governance codes and laws to ensure that Nigerian corporations are not left behind in this emerging governance paradigm and that they remain resilient, accountable, and competitive in the digital age.

9.0 Recommendations

Addressing the legal and regulatory challenges identified above requires comprehensive reforms to modernize Nigeria's corporate governance framework.

1. Enhancing Board Competence in Technology Governance: Corporate boards are responsible for overseeing all aspects of a company's operations, including information technology governance, which carries important fiduciary duties for board members. To fulfill this responsibility effectively, boards should invest in training, seminars, and workshops that help members understand technological developments and how technology can support corporate governance and the organization's objectives.[135]

In addition, future board members should be introduced to corporate governance principles at an early stage so they can effectively collaborate with experienced directors when appointed to boards. Many emerging board members possess expertise in cybersecurity, AI, machine learning, and other Industry 4.0 technologies. With proper guidance on best corporate governance practices, they can effectively leverage technology to enhance transparency, accountability, and efficiency.[136]

2. Updating the Existing Regulatory Framework: One important solution to the challenges of fourth-generation corporate governance in the digital age is the updating of existing legal and

[135] Society for Corporate Governance Nigeria, 'Future-Proof Boards: Corporate Governance in the Digital Era' (2022) <https://corpgovnigeria.org/futureproof-boards-corporate-governance-in-the-digital-era>Accessed 16 March 2026.
[136] ibid

regulatory frameworks. The current legal framework and sector-specific regulations are not sufficiently comprehensive to address the risks and complexities associated with the integration of technology into corporate governance. Although some sector-specific regulations include limited provisions on technology, they are often confined to particular industries and do not apply across all sectors.

For instance, the Nigerian Communications Commission Corporate Governance Guidelines 2025 require telecommunications companies to appoint board members with demonstrated competence in Information and Communication Technology and/or cybersecurity.[137] While this provision is progressive, its application is limited to the telecommunications sector and does not extend to other sectors where digital governance is equally important.

It is therefore necessary to introduce an all-encompassing statutory provision or regulatory framework specifically designed to facilitate the integration of technology into fourth-generation corporate governance. Such a framework should provide clear and comprehensive guidelines on digital corporate governance, cybersecurity responsibilities, data protection obligations, and the use of emerging technologies in corporate operations.

Furthermore, as the National Code of Corporate Governance serves as the primary governance framework across sectors, there should be a comprehensive regulatory instrument that provides detailed guidance on digital corporate governance. Sector-specific regulators can then develop additional regulations tailored to their industries based on this overarching framework. This approach would help reduce legal uncertainty and ensure that corporations operate within clearly defined and consistent regulatory standards.

3. Proper Enforcement of the Regulatory Provisions: Although Nigeria has developed several corporate governance frameworks, a persistent challenge remains the effective enforcement of these legal frameworks. For instance, the NCCG 2018 operates on an "apply and explain" basis, requiring companies to explain how they apply the Code's principles. In practice, however, some corporations may provide explanations without fully complying with the substantive requirements. This Act manifests in the box-ticking strategy, whereby corporate bodies are

[137]Rule 6 of the Guidelines on Corporate Governance.<https://www.ncc.gov.ng/sites/default/files/2025-07/Guidelines-on-Corporate-Gov.pdf>Accessed 15 March 2026.

required to comply with every rule to present the illusion of compliance, thereby hiding the company's potential vulnerabilities.

Consequently, it is necessary to develop effective mechanisms to ensure proper enforcement and compliance with laws governing digital corporate governance within corporations.[138] Furthermore, improved coordination among regulatory agencies would help reduce regulatory fragmentation and strengthen the overall effectiveness of corporate governance enforcement.

[138] O.C. Aduma, 'Appraising The Impact Of Digital Corporate Governance On The Indoor Management Rule Under Nigerian Company Law' *Nnamdi Azikiwe University, Awka Journal of Private and Property Law* [2025] (2)(1) 34<https://journals.unizik.edu.ng/index.php/naujppl/article/download/5898/4897/13370>Accessed 15 March 2026.