

Artificial Intelligence in Financial Services: Rethinking Financial Regulation, Consumer Protection and Institutional Accountability in Nigeria

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ABSTRACT

Artificial intelligence has increasingly influenced financial services through automated credit assessment, fraud detection, compliance, customer service and risk management. This study discussed Artificial Intelligence in Financial Services: Rethinking Financial Regulation, Consumer Protection and Institutional Accountability In Nigeria. It embraced a doctrinal methodology with an analytical and comparative approach and explored Nigerian legislation, regulatory instruments and pertinent scholarship. It was discovered that Central Bank of Nigeria Act 2007, Banks and Other Financial Institutions Act 2020, Federal Competition and Consumer Protection Act 2018 and Nigeria Data Protection Act 2023, had laid important foundations in regulating AI enabled financial activities. However, the institutional structure had not been adequately integrated and the issues of algorithmic bias, explainability, automated decision making, and third-party technological responsibility and effective redress have not been sufficiently addressed. In the study it is thus proposed to establish a risk-based framework for AI systems, with algorithmic impact assessment, meaningful transparency, human oversight, institutional accountability, coordinated supervision and accessible remedies. It said that the “usage of AI should have created innovation and financial inclusion while not compromising consumer rights and with technology's complexity not hiding legal accountability.”

Keywords: Artificial Intelligence; Financial Regulation; Financial Services; Consumer Protection; Algorithmic Accountability; Nigeria

INTRODUCTION

Artificial Intelligence (AI) is now much more than experimental technology and has become a more important part of the current financial services. Algorithmic systems were used in financial institutions for fraud detection, credit assessment, risk management, compliance, customer service and financial decision making. Widespread digital transformation have led to the growth of such applications, which have come to signify a faster, more scalable and sophisticated approach to financial service delivery. Ashta and Herrmann had also linked AI adoption in banking, investment and microlending with decision making, governance, and regulation risks.¹while Mhlanga had included digital financial inclusion.² Owolabi et al and Omosuyi and Iyekekpolor had also linked AI adoption to institutional capability and organisational adaptability.³

¹ A Ashta and H Herrmann, ‘Artificial Intelligence and Fintech: An Overview of Opportunities and Risks for Banking, Investments, and Microfinance’ Strategic Change (2021), DOI: 10.1002/jsc.2404.

² D Mhlanga, ‘Industry 4.0 in Finance: The Impact of Artificial Intelligence (AI) on Digital Financial Inclusion’ (2020) 8(3) International Journal of Financial Studies, DOI: 10.3390/ijfs8030045.

³ A Owolabi, K Ogunyemi, O Onayemi and J Ikeolumba, ‘Understanding the Adoption of AI in Accounting and Finance in Emerging Economies: Insights from the Banking and Finance Sector’ in The Impact of Artificial Intelligence on Finance: Transforming Financial Technologies (Springer Nature Switzerland 2025) 111; E Omosuyi and A Iyekekpolor, ‘Artificial Intelligence Readiness and Organizational Adaptability in Post Digital Economies: Evidence from Emerging African Market: A Case Study of Nigeria’ (2026) 1(2) Garp International Journal of Business & Management Sciences 12.

Nigeria has offered a very important perspective on these developments. Its financial services industry had undergone significant technological change with the electronic payment system, electronic financial services and other technology enabled financial products. This had led to the expansion of the Central Bank of Nigeria's regulatory mandate from the prudential supervision of banks, other financial institutions, payments to consumer protection and financial inclusion, where technological systems played a growing part in shaping the designs, delivery and monitoring of financial services.⁴ Obasi, Oru and Nnebuife had also corroborated the point that technological efficiency alone could not have ensured public confidence in the banking sector of Nigeria, as they had linked technological innovation with the confidence of the people.⁵

Even with the rise of AI, though, there have been regulatory issues beyond simple digitisation. AI systems might have been able to analyze vast amounts of personal and financial data, make predictions and inform decisions faster and on a much larger scale than traditional human analysis. Consumers may thus have had trouble in knowing how a decision had been reached, what information had been used in reaching it, whether the information was accurate or flawed, or which institution had made the decision, when the decision damaged the consumer. Fahim et al had highlighted algorithmic accountability in the context of credit risk, fair lending and financial stability and Bednarz and Manwaring had highlighted the broader consumer implications that could stem from new technologies in financial services.⁶

Nigeria hasn't been without legal rules that could apply to these risks. The problem was that financial, consumer and data protection developed separately, in legal and institutional paths and processes. Osilike also pointed out the problems with regulatory compliance of technological application in Nigeria's banking sector, and Elgужja described the regulation of AI in Nigeria's financial sector as a constant tug of war between security, consumer protection and innovation.⁷ The point was not whether Nigerian law could technically be applied to AI, but whether, collectively, the existing framework had provided adequate protection against the unique risks posed by high impact automated financial decisions.⁸ This study thus explored the Nigerian financial services context of AI and examine the extent to which the existing regulatory framework has safeguarded consumers without compromising institutional accountability. It wanted regulation not to just react after the technological hurt. Rather, Nigeria demanded coordinated, risk-based and technology responsive governance that would have been able to bring high impact uses of AI under suitable transparency, human oversight, accountability and redress processes.

The study was guided by two research questions. First, to what extent has Nigeria's existing legal and regulatory framework adequately regulated AI driven financial services and addressed associated risks to consumers and financial stability? Secondly, what regulatory and institutional reforms has been necessary to strengthen consumer protection and institutional accountability while promoting responsible AI innovation in Nigeria's financial services sector?

The study pursued three objectives. It examined AI applications in Nigeria's financial services sector and assessed the adequacy of the existing regulatory framework. It also analysed the implications of AI driven financial decision making for consumer protection, transparency, privacy, fairness, accountability and redress. It also developed a regulatory approach capable of promoting responsible innovation while strengthening consumer protection and institutional accountability.

⁴ Central Bank of Nigeria Act 2007; Banks and Other Financial Institutions Act 2020 (BOFIA).

⁵ C Obasi, U Oru and E Nnebuife, 'Examining the Role of AI in Balancing Innovation and Trust within the Banking Sector: A Survey of Bank Customers in Abia State, Nigeria'.

⁶ A S M Fahim, M Ibrahim, A A Pritty and T A Tania, 'Algorithmic Accountability in US Consumer FinTech: Governance Mechanisms for Credit Risk, Fair Lending, and Financial Stability' (2023) 5(4) Journal of Economics, Finance and Accounting Studies; Z Bednarz and K Manwaring, 'Risky Business: Legal Implications of Emerging Technologies Affecting Consumers of Financial Services' (2021), DOI: 10.2139/ssrn.3880912.

⁷ O Osilike, 'Technology and Regulatory Compliance in Nigeria's Financial Sector: Challenges and Opportunities' (2025) SSRN 5507899; A Elgужja, 'Navigating the Regulatory Trilemma in Nigerian FinTech: Balancing Security, Consumer Protection, and Innovation (2023 to 2025)' (2025).

⁸ G Odularu, 'AI Cyberattacks, Regulatory Differentials, and Institutional Justice' in Behavioral Cybersecurity and Ethical AI in Relational Economics Context: Policy Lessons for Africa (Springer Nature Switzerland 2026) 1.

LITERATURE REVIEW

Artificial Intelligence, Financial Services and Regulatory Governance

Conceptualising Artificial Intelligence in Financial Services

Studies have increasingly treated AI as more than a mechanism for automating routine financial processes. In financial services, it had been about computational systems which could analyse massive information, find patterns, make predictions and make or influence decisions normally made by humans. It's meaning has thus not only been about automation, but also about the transfer of parts of the financial judgement from the human actors to technologically mediated systems. Ashta and Herrmann had pointed out the use cases in banking, investment and microfinance, and Paul had mentioned the regulatory aspects of ever more sophisticated AI applications.⁹

This has been important in Nigeria, because although the formal legal form of a financial service might not change, the process by which a decision was made could have changed to something heavily automated. A conventional lending decision, based on the same AI system in conjunction with extensive data aggregation, profiling and predictive modelling, could have been delivered by an AI enabled credit assessment system. The potential advantages of automation has thus been present and questions of institutional governance and responsibility for mispredictions has also been raised in the context of model validation.¹⁰

A technological capacity was thus not enough as Owolabi et al had highlighted the association between AI adoption and changing institutional practices in emerging economies and Omosuyi and Iyekekpolor emphasised organisational readiness and adaptability in Nigeria.¹¹ Financial institutions had also demanded governance mechanisms to verify and approve the outputs; and to monitor and correct the bad decisions.

Lee had been engaging with AI regulation, in part, by the lens of access to finance, and Kálmán had explored accountability and liability in AI contexts of financial regulation.¹² The legal issue has been the one of technological capability and ongoing institutional responsibility.

Artificial Intelligence, Financial Innovation and Financial Inclusion

One of the key themes of the study was the link between AI and greater financial inclusion. In Ibrahim, Yau and Ahmed's work, which investigated the role of AI in the Nigerian microfinance lending sector, AI could have helped institutions to assess consumers using alternative information where traditional credit histories were scarce.¹³ The inclusion argument has been nevertheless qualified. More of the same could not necessarily have been interpreted as fair or sustainable access. Automated systems would have lowered transaction costs and exacerbated existing inequities if the data on which the prediction was based did so. Makore's analysis of AI regulation and financial inclusion in South Africa has already illustrated the significance of the design of regulations in shaping the inclusivity of technological developments.¹⁴

⁹ Ashta and Herrmann (n 1); M Paul, 'Artificial Intelligence in Financial Services: New Risks and the Need for More Regulation?' (2022) 359.

¹⁰ T O Adeyemi and A O Ojogbade, 'Artificial Intelligence Enabled Accounting Information Systems and Fraud Detection in Nigeria's Financial Services Sector: The Moderating Role of Natural Language Processing' (2026), DOI: 10.48550/arxiv.2607.01257.

¹¹ Owolabi et al (n 3); Omosuyi and Iyekekpolor (n 3).

¹² J Lee, 'Access to Finance for Artificial Intelligence Regulation in the Financial Services Industry' (2020) 21 European Business Organization Law Review 731; J Kálmán, 'Accountability and Liability in AI Related Financial Regulatory Sandboxes: A Comparative Legal Analysis' (2026) FinTech.

¹³ Mhlanga (n 2); S Ibrahim, A Yau and A U Ahmed, 'The Role of Artificial Intelligence in Enhancing Financial Inclusion in Microfinance Lending in Nigeria' (2025) 8(1) UMYU Journal of Accounting and Finance Research.

¹⁴ S M M Makore, 'Regulating Artificial Intelligence to Advance Financial Inclusion in South Africa' (2024) 27 Potchefstroom Electronic Law Journal.

Jalal Eddeen's work on FinTech lending in Nigeria added a much-needed corrective to narratives that saw digital lending as being 'good'. His study on the everyday practices of FinTech loans found that technology could have the potential to increase access to credit, but at the same time create vulnerabilities for consumers.¹⁵ The relevant question was thus no longer whether more consumers could access credit or not, but whether AI could be used to determine creditworthiness, personalise loan terms, or monitor borrowers. It also raised a question about the terms and conditions of that access being transparent, fair and contestable.

Sustainable inclusion could therefore not have been achieved in a technologically advanced financial system if consumers considered automated decisions as opaque, intrusive or unfair.¹⁶ The regulatory dilemma has been to delineate between innovation that led to a broadened base of meaningful financial participation and innovation that merely boosted the number of transactions.

Algorithmic Risk, Consumer Protection and Institutional Accountability

Algorithmic risk was the increasing focus point of the critical study. Fahim et al had found algorithmic accountability to be a key factor in areas in which automated systems had a significant impact on credit risk, financial stability and fair lending. Bednarz and Manwaring also explored how emerging technologies would impact consumers, such as discrimination, transparency and vulnerability.¹⁷

Transparency has been an especially thorny issue. While disclosure had been a main-line focus of Prihandini's points about the use of FinTech and AI by financial institutions, disclosure on its own would not have been able to solve algorithmic opacity.¹⁸ Institutions may have notified a consumer that AI was used without providing an explanation of the key factors that materially affected the outcome.¹⁹ A shift from disclosure to explainability was thus necessary for meaningful regulation.

This question has also impacted on the accountability of institutions. In the case of financial regulation, however, the question of whether AI should be a legal person was not immediately at stake. It has been whether or not institutions could wash their hands of the implications, if an action with far-reaching consequences was taken by an automated system. Kálmán's analysis of regulatory sandboxes in the context of AI had also shown that the technological experimentation created challenges in relation to accountability and liability.²⁰ The sandbox could have provided a space for innovation, but it was also necessary to establish governance regimes that would ensure the accountability of the actors involved in an experiment if the technology caused harm to the consumer.

Algorithmic risks had so far been closely linked in the area of privacy and cybersecurity. Salami and Nwankwo explored the privacy concerns of AI systems in Nigeria and Hassan et al had placed cybersecurity under the umbrella of protection of Nigerian banking systems.²¹ AI systems has relied on huge amounts of information, with gaps in data governance potentially impacting on both information security and the fairness of decisions made using the information.

¹⁵ S Jalal Eddeen, 'Algorithmic Governance or Extortion? Everyday Experiences of Fintech for Loans in Nigeria' (2024) 30 *New Political Economy* 254.

¹⁶ ⁶ Obasi, Oru and Nnebuife (n 5).

¹⁷ Fahim et al (n 6); Bednarz and Manwaring (n 6).

¹⁸ W Prihandini, 'Transparency and Disclosure in the Implementation of FinTech and Artificial Intelligence by Financial Service Institutions in Sustainability Reports' (2026) 5(1) *Journal of Central Banking Law and Institutions*.

¹⁹ N S Uzougbo, C Ikegwu and A O Adewusi, 'Legal Accountability and Ethical Considerations of AI in Financial Services' (2024) 19(2) *GSC Advanced Research and Reviews*; O C Aduma and O C P Obiaeli Chidebe, 'Revisiting Corporate Legal Personhood in the Age of Artificial Intelligence' (2026) 4(1) *KB Scholars Journal of Law*.

²⁰ Kálmán (n 12).

²¹ E Salami and I Nwankwo, 'Regulating the Privacy Aspects of Artificial Intelligence Systems in Nigeria: A Primer' (2024) 1(1) *African Journal on Privacy and Data Protection*; A O Hassan et al, 'Cybersecurity in Banking: A Global Perspective with a Focus on Nigerian Practices' (2024) 5(1) *Computer Science & IT Research Journal*.

Gaps in the Existing Literature

The existing studies provided an important foundation but there had been little discussion of how these dimensions should have interworked in Nigeria's financial regulatory framework, as had been done by Ashta and Herrmann, Mhlanga and Ibrahim, Yau and Ahmed and Salami and Nwankwo.²²

Regulatory fragmentation was a growing concern of the Nigerian scholarship. All these has set the tone for the thought on the security of AI systems, consumer protection, and innovation in financial services as a perennial trilemma, with each stakeholder having a role to play.²³ Odularu had also added security issues of cyber-attack and institutional justice issues.²⁴ These has shown that AI may further exacerbate the existing issues of coordination since a single automated financial system may involve financial supervision, consumer protection, data protection, institutional justice and cyber security.

The extent to which AI actually impacted financial decisions has not been sufficiently clarified in the study either. What Lee, Liang and Kálmán had each highlighted were aspects of regulatory adaptation: the Nigerian context has demanded a more distinct allocation of responsibilities between financial institutions, boards, technology providers, compliance workers and regulators.²⁵ The main missing piece has been a Nigerian analysis, integrating financial regulation, consumer protection, and institutional accountability within a single AI governance framework.

METHODOLOGY

The study used a doctrinal approach in legal research complemented by analytical and comparative methods. The doctrinal method was deemed fit as the main question was how sufficient the current legal and regulatory framework is for AI powered financial services in Nigeria. The study has looked at the laws, regulations, institutional instructions and academic publications on AI, financial regulation, consumer protection, data governance, cyber security and the responsibility of institutions.

The principle primary authorities has been the Central Bank of Nigeria Act 2007, the Banks and Other Financial Institutions Act 2020, the Nigeria Data Protection Act 2023 and the Federal Competition and Consumer Protection Act 2018. The Central Bank of Nigeria Consumer Protection Framework for Banks and Other Financial Institutions Regulated by the Central Bank of Nigeria 2016 was also reviewed due to its connection with financial consumer protection and supervision.²⁶ The analysis was to identify the relevant law already in place for protecting consumers and regulated institutions and then seeing whether the available law was sufficient to cover the unique features of decisions made using AI. These has been addressed specifically with regard to algorithmic bias, transparency, automated decision making, privacy, cybersecurity, institutional responsibility and consumer redress. Where relevant, lessons has been learnt from other scholarships in order to evaluate potential regulatory responses and not to assume that regulatory models in other countries could simply be transferred to Nigeria.

The results had informed the development of a proposed framework for: risk-based governance, algorithmic impact assessment, transparency, human oversight, institutional accountability, coordinated supervision and effective consumer remedies.

²² Ashta and Herrmann (n 1); Mhlanga (n 2); Ibrahim, Yau and Ahmed (n 13); Fahim et al (n 6); Bednarz and Manwaring (n 6); Salami and Nwankwo (n 21).

²³ Osilike (n 7); Elgujja (n 7); L I Nnebuihe and L Ogu, 'Navigating the Digital Frontier: An Examination of the Legal and Regulatory Framework for FinTech and Cryptocurrency in Nigeria' (2025).

²⁴ Odularu (n 8).

²⁵ Lee (n 12); P Liang, 'Leveraging Artificial Intelligence in Regulatory Technology (RegTech) for Financial Compliance' (2024) Applied and Computational Engineering; Kálmán (n 12).

²⁶ ²⁶ Central Bank of Nigeria Act 2007; Banks and Other Financial Institutions Act 2020; Nigeria Data Protection Act 2023; Federal Competition and Consumer Protection Act 2018; Central Bank of Nigeria, Consumer Protection Framework for Banks and Other Financial Institutions Regulated by the Central Bank of Nigeria (2016).

Artificial Intelligence and the Nigerian Financial Regulatory Framework

The Regulatory Mandate of the Central Bank of Nigeria

The Central Bank of Nigeria continued to be the key regulator for banks and other types of financial institutions, to include financial system stability, payments, consumer protection and financial inclusion. Collectively, these instruments constituted a legislative solution that would give the Bank a statutory framework for its operations, including an in-depth set of rules for the technology-based operations of financial institutions.²⁷

As financial institutions transitioned to digital systems, CBN's regulatory mandate has become more important. Its functions have encompassed supervision of the safety and soundness of the institutions it regulated, enforcement of the rules and payment system supervision. The CBN consumer protection principles of "disclosure", "fair treatment", "complaints handling" and "risk focused consumer protection supervision" contained in the CBN Consumer Protection Framework 2016 had also taken cognisance of consumer protection as an aspect of financial sector supervision.²⁸

The regulatory sandbox has been an extra way that technological innovation could have been allowed to be developed in regulated spaces. It has enabled the experimenting of innovative financial products and business models under regulatory supervision. This has been important in the context of AI, as data was one of the areas of innovation that regulators could explore prior to mass rollout in financial services, alternative data-driven credit assessment, fraud prevention and credit analytics.²⁹

However, a "sandbox" could not have been used as a proxy for effective consumer protection measures. Operational weaknesses might have been identified during the inbound testing of an AI system, but this would not have been sufficient to resolve issues about discriminatory outcomes, explainability, liability or consumer redress. Responsible innovation had thus needed to be paired with substantive governance demands, and regulatory experimentation.

Data Protection and Consumer Protection in AI Enabled Financial Services

The Nigeria Data Protection Act (NDPA) 2023 has been an important legal underpinning for the regulation of AI as algorithmic systems has relied on the collection, processing, analysis and reuse of personal data. Financial institutions have thus been obliged to take into account the legality and purpose of processing data and the rights of the people affected by the data. Of particular interest, section 37 of the NDPA has acknowledged a right not to be subject to a decision based exclusively on automated processing including profiling with legal or similar significant consequences with some exceptions and safeguards.³⁰

This protection has come to have a meaning far greater than privacy. Consequences to an individual's access to financial services could have been generated through the use of credit scoring, loan approval, fraud assessment and classification of customer risks. A statutory right to challenge some purely automatic decision making has thus given an important platform to challenge an overly mechanistic interpretation of the consequences of financial decision making.

NDPA has been working in parallel with the consumer protection law and not replacing it. These principles had a special importance as regards financial institutions' use of automated systems in the context of the FCCPA '18.³¹ A consumer may have been given a decision without being aware that it was produced purely by a human officer, purely by an algorithm or as a hybrid of the two.

²⁷Central Bank of Nigeria Act 2007; Banks and Other Financial Institutions Act 2020.

²⁸ Central Bank of Nigeria, Consumer Protection Framework (n 26).

²⁹ Central Bank of Nigeria, regulatory sandbox framework and related supervisory materials.

³⁰ Nigeria Data Protection Act 2023, s 37.

³¹ Federal Competition and Consumer Protection Act 2018, ss 114, 115, 123 and 124.

The legal challenge thus had come at the intersection between general consumer rights and technically complex decision making.³² A notice indicating that an application was denied after automated assessment would have met the formal disclosure requirement, but the consumer would not have been able to find out which data were inaccurate, what factors were considered, or to get a review.

Explainability has thus become a significant part of substantive consumer protection. Did not necessarily need to involve the reveal of source code or commercially sensitive algorithms. Instead, consumers who have been adversely impacted by a big decision made by mainly automated processes should have been given enough information to give them an understanding of the nature of the decision, the material considerations that have determined it, and the process to appeal if it is wrong.

Regulatory Gaps and the Problem of Technological Neutrality

In Nigeria, the key challenges of the framework has been the fact that it was very fragmented despite its regulatory breadth. Financial regulation, consumer protection, data protection and related technological aspects has grown in a variety of statutory and institutional structures. Osilike had pointed out issues with technological regulatory compliance, and Elgujja had also pointed out conflicts between security, customer protection and innovation. Similarly, Nnebuihe and Ogu had explored the Nigeria's complex evolving FinTech regulatory dynamics.³³

Technological neutrality could have been used as an argument for basing on the existing legislation. When manual processes were automated, laws that govern financial institutions based on the activity being carried out could have stayed as is. This neutrality has minimised the need for frequent legislative changes and would have avoided situations where laws were incomplete simply because new technologies have not been thought of.

Technological neutrality, however, have not necessarily meant technological adequacy. The risks AI might have generated could have been qualitatively different from traditional financial decision making. It could have been possible for automated systems to process vast amounts of personal data, to reproduce biases found in the historical data, and to make decisions on a large scale and make it harder to determine responsibility if multiple technological agents were involved. Therefore, there could have been a law that was technically still in effect but lacked the specificity of adequate protection from harm caused by AI.

This has shown why a regulatory response should not be reductionist with regard to technology's impact; Anuoluwapo, Feyisayo and Bilewu had shown the potential of AI in enhancing efficiency and regulatory compliance in the Nigerian capital market.³⁴ Its benefits have been the challenge, as well as control of the consequential risks. Accountability has been particularly challenging when financial institutions has acquired AI systems from third party suppliers. The institution, technology providers, data providers and other entities could be caught up in a negative decision. In the context of financial services, Kálmán's analysis of AI-related financial regulatory sandboxes has already highlighted the need for a clear definition of liability in the context of AI technologies tested and deployed.³⁵ Lee also demonstrated that AI-related financial regulation had to address issues related to institutional responsibility and access to finance.³⁶ Nigeria therefore needed an approach that kept the merits of technological neutrality and added AI specific governance where needed, to the general rules. These requirements could have been put in place by means of regulation, supervisory guidance, licence conditions and algorithmic risk management requirements and coordinated regulatory oversight.

³² Central Bank of Nigeria, Consumer Protection Framework (n 26).

³³ Osilike (n 7); Elgujja (n 7); Nnebuihe and Ogu (n 23).

³⁴ A Anuoluwapo, Feyisayo and O A Bilewu, 'Optimising Target Identification in the Nigerian Capital Market Using Artificial Intelligence: An Empirical Framework for Financial Efficiency, Regulatory Compliance and Economic Competitiveness' (2026) International Journal of Financial Research and Management Science, DOI: 10.70382/tijfrms.v11i7.045.

³⁵ Kálmán (n 12).

³⁶ Lee (n 12).

Rethinking Consumer Protection and Institutional Accountability in AI Driven Finance

Algorithmic Bias, Automated Decision Making and Access to Finance

One particular consumer protection issue has risen in the field of algorithmic decision making: the fact that the objectivity of a mathematical model may have masked assumptions in the datasets, variables and system design. There was the potential to have included in credit scoring systems historical data on past practices of exclusion. If this information has already been applied to determine future creditworthiness, automated systems could have exacerbated existing inequalities and presented these results as “neutral.” Fahim et al had thus highlighted algorithmic accountability, when automated systems impacted credit risk and fair lending.³⁷

The subject has been of special significance for financial inclusion. Mhlanga's connection between AI and digital inclusion and the experience of Yau and Ahmed, along with Ibrahim, on the potential of AI in the microfinance lending sector in Nigeria, could have led institutions to adopt alternative information to assess consumers when traditional credit histories were insufficient. It has significant development potential for people who did not have a formal employment history, or a lot of banking information or traditional collateral.³⁸

Inclusion, however, could not have been simply scratched in the number of consumers added to the financial system. Quality and equity of access has also been a concern. Thus, the goal of regulation was to be meaningful inclusion, in which the systems of technology would increase access without turning vulnerable consumers into objects of opaque or overly intrusive automated evaluation.³⁹

Section 37 of the NDPA has provided a crucial base in law, not only to afford protection to personal data processing that took the form of purely automated decisions, but also to give legal recognition to the risks arising from such decisions.⁴⁰

Transparency, Explainability and Consumer Rights

Transparency has always been linked to the idea of transparency in contracts, charges and other information that should be disclosed to make informed financial decisions. AI made this model difficult as consumers would get sufficient information about a product but would not be able to understand how an automated system was evaluating them. The use of FinTech and AI by financial service institutions required transparency and disclosure, has been highlighted by Prihandini.⁴¹

The FCCPA has made the notion of understandable and accurate consumer information more legalistic, but it was more than informing the consumer that an automated process has been used.⁴² A statement that a loan application has failed an automated assessment would not necessarily have allowed the consumer to see if an error in information had been used to determine the outcome, or if an individual factor has disproportionately affected the outcome.

Thus, explainability should not only be considered as a technical requirement, but also as a functional one. The consumers involved in the significant automated decisions should have been informed about the nature of the automated decision, the main considerations to which the automated decision is based and how they could seek a review. This wouldn't have made it necessary to release any proprietary source code. Transparency has been linked with contestability as well. Limited protection would have been afforded by an explanation without a review path. If the data was incorrect and led to an adverse automated decision, the

³⁷ Fahim et al (n 6).

³⁸ Mhlanga (n 2); Ibrahim, Yau and Ahmed (n 13).

³⁹ Jalal Eddeen (n 15).

⁴⁰ NDPA 2023, s 37.

⁴¹ Prihandini (n 18).

⁴² FCCPA 2018, ss 114, 115, 123 and 124.

consumer should have had a “realistic opportunity” to fix the data and request reconsideration. Consumer protection has thus needed to be linked to information and review and remedy.

Privacy, Data Governance and Cybersecurity

The ability of AI for financial services has raised concerns about privacy and data governance, given that algorithmic systems has relied on massive amounts of data to train, profile, predict and make decisions. Both Salami and Nwankwo explored the privacy issues of AI in Nigeria and Hassan et al discussed cybersecurity in the entire challenge of securing the Nigerian banking systems.⁴³

Financial institutions historically have a lot of data about customers, like what transactions they made and how they behaved financially. This growth in AI has spurred a potential rise in the uses of such information and has thus raised questions about its purpose, lawful processing, reuse, accuracy and proportionality. The NDPA has offered a legal framework to address these concerns via rights of the data subjects and regulation of personal data processing.

Cybersecurity has been a related responsibility of institutions. AI systems might have scaled up and accelerated data processing and added more technological vulnerabilities. The consequences might thus have been more serious than the simple loss of information caused by a weakness in a model, dataset or external system. Cybersecurity, thus, have to become an integral part of AI governance and not a completely independent technical activity.

Responsibility has been further complicated by third party involvement. If an AI function has been outsourced to a third party, the financial institution could not have avoided regulatory responsibility because it has passed on the processing to the third party. Institutional governance has thus demanded and called for the right contractual controls, security standards, audit rights, monitoring and incident reporting.

Institutional Responsibility, Human Oversight and Liability

The most challenging question when it comes to AI was about AI's responsibility for harmful automated decisions. Technological complexity might have led to the emergence of institutions that report negative consequences as decisions of the system, instead of decisions that have been made by an institutional decision-making process. That would have undermined accountability, since an AI system could not have taken responsibility for compliance of a licensed financial institution.

But for financial regulation, the notion of a legal personhood for AI has not been required.⁴⁴ Uzougbo, Ikegwu and Adewusi focussed on legal accountability and ethical considerations of financial AI, while Aduma and Obiaeli Chidebe considered more general issues around legal personhood and artificial intelligence. It was the clear institutional responsibility that was needed.⁴⁵

This is also what Kálmán's studies of accountability and liability in regulatory sandboxes has shown: that it is important to establish who is responsible in the context of technological experiments—the same would also apply to commercial deployment.⁴⁶ Financial institutions should have designated who'll be responsible for the procurement, design, validation, monitoring, modification, and retirement of AI. So, there would have to have been an element of accountability in the whole life cycle of the system. Some decisions have a high impact, and human oversight was especially crucial. Human review should have the real power to intervene and suspend automated processing and re-consider outcomes if errors or unusual results have been picked up. If a human were simply added to another automated step, it wouldn't have been much of an oversight at all.

⁴³ Salami and Nwankwo (n 21); Hassan et al (n 21).

⁴⁴ NDPA 2023.

⁴⁵ Uzougbo, Ikegwu and Adewusi (n 19); Aduma and Obiaeli Chidebe (n 19).

⁴⁶ Kálmán (n 12).

Consumer Redress and Regulatory Enforcement

The effectiveness of consumer protection was ultimately dependent on effective redress. Rights on fairness, transparency, privacy and automated decision making would otherwise have been rather pointless if consumers lacked the ability to contest negative decisions or secure suitable redress. By that time the FCCPA has set up significant consumer safeguards, and CBN's consumer protection framework has also set up institutional mechanisms to address complaints against regulated financial institutions.⁴⁷ So it's necessary for adequate record keeping and auditability in AI governance. Where AI processes are used for important financial decision making, institutions should keep notes on the purpose of the AI, data sources used, key parameters used in the decision-making process, validation procedures undertaken, and any important changes to the system. These records would have allowed for review and investigation of complaints and would have minimized the potential for "technological complexity" to be used to evade accountability.

There is also a need for coordination in the enforcement. Banking supervision, consumer protection, data protection and cybersecurity could have been involved in a single AI-related consumer harm event. Osilike explained the technological regulatory compliance challenges while Elguja explained the Nigerian FinTech regulatory challenges.⁴⁸

The CBN, Nigeria Data Protection Commission and Federal Competition and Consumer Protection Commission has separate mandates, with the possibility of overlapping of mandates in the case of financial services made possible with AI. Coordinated supervision may have thus enabled the regulators to take into account financial stability, consumer welfare and privacy and technological risk together. The main idea has been that the increased complexity of the technology should not have undermined the consumer's legal standing. An institution with AI should also have been accountable for the technology's legal and governance compliance.

Towards a Responsible AI Regulatory Framework for Nigerian Financial Services

Previous studies have shown that Nigeria's current framework has offered significant building blocks to regulate the governance of AI-powered financial services but lacked a comprehensive framework to tackle algorithmic risks. It was wrong to ban AI or to restrict its use in such a way that innovation was commercially unfeasible. Regulation, instead, should have made sure that innovation has not been at the expense of fairness, transparency, privacy and financial stability and institutional responsibility.

AI has not exhibited a consistent class of risk. What was once a system for routine customer service did not have the same connotations as a system for the approval of loans, determining eligibility, detecting fraud or limiting access to financial services. Paul pointed to the new regulatory challenges arising from the use of AI in financial services and Lee shown the need to think about AI regulation in the context of access to finance.⁴⁹ A Nigerian framework should thus be designed to regulate based on the impact of an AI application, not just the fact that AI has been used.

Risk Based Algorithmic Governance and Regulatory Oversight

Financial institutions should have been required to categorise AI systems based on the potential impact on consumers and financial stability using a risk-based approach. More intensive governance of the high impact applications involving credit assessment, eligibility decisions and other consequential financial determinations should be applied.

The CBN has been operating a Risk Based supervisory approach. Therefore, AI governance may have been integrated into the current supervisory frameworks instead of establishing a separate regulatory framework.

⁴⁷ FCCPA 2018; Central Bank of Nigeria, Consumer Protection Framework (n 26).

⁴⁸ Osilike (n 7); Elguja (n 7).

⁴⁹ M Paul (n 9); Lee (n 12).

Significant systems ought to have been registered with financial institutions, and the responsible officers, and the systems should have been tested and deemed appropriate for deployment by financial institutions that used high impact AI.

But an oversight should have been maintained after deployment. AI models could have changed as datasets, operating conditions and institutional practices changed. Institutions should have tested notable systems for accuracy, bias, data quality, cyber security, and changes in the physical performance of the systems periodically.

While Liang's analysis of AI for RegTech has showcased the promise of AI in regulatory compliance, it was also important to have governance to prevent the possibility of algorithm-driven compliance tools introducing undetected regulatory mistakes.⁵⁰

Algorithmic Impact Assessment, Transparency and Disclosure

The algorithmic impact assessment should have been a mainstay of the framework. Prior to implementing a high impact AI system, a financial institution should have evaluated the potential impact of such systems on consumers, such as consumer discrimination, inaccurate consumer decision making, invasion on consumers' privacy, cyber security risks, and consumer exclusion from financial services.

The assessment should have identified groups of consumers that are affected, risks, mitigations and processes for identifying and remedying harmful impacts. Additionally, high impact systems should have been periodically reassessed if there were significant changes.

Transparency should have been "proportional to risk. Notice should have been given to the consumers, where they are concerned by major automated decisions, that such automated processing had a material effect on the decision. They should also have been provided with information in a manner that they could understand regarding the key factors considered in the decision and how they could request that the decision be reviewed by humans. The goal should not have been to leave proprietary algorithms open for disclosure.⁵¹ Instead, the focus of disclosure should have been on ensuring that consumers and regulators are appraised of information they need to understand how such important automated decisions are made and what impact they have.

Human Oversight and Institutional Accountability

Human oversight has been considered an institutional responsibility. For financial institutions using AI in critical decision-making, it was essential to ensure that there were skilled staff members with the power to step in and halt automated systems, reevaluating decisions when mistakes or unusual outcomes were detected.

The boards and top management should have been included too. AI governance shouldn't have been considered an information technology issue alone, as AI may have impacted credit risk, consumers, compliance, operational risk and financial stability. Governance arrangements should have also included third party technology providers. Because the AI system was developed by an external vendor, financial institutions were not supposed to be able to evade liability. Data protection, access for audits, security, performance, incident reporting, explainability, and termination should thus have been covered in the contracts. The regulated institution would have maintained enough control to meet regulatory and statutory requirements.

⁵⁰ P Liang, 'Leveraging Artificial Intelligence in Regulatory Technology (RegTech) for Financial Compliance' (2024) Applied and Computational Engineering, DOI: 10.54254/2755-2721/93/20240964.

⁵¹ Prihandini (n 18); FCCPA 2018.

This focus on institutional responsibility was echoed by Uzougbo, Ikegwu and Adewusi's analysis of legal accountability, which showed that responsibility should be found even in experimental regulatory contexts.⁵² Kálmán's analysis also showed that responsibility has to be identified even in experimental regulatory contexts.⁵³

Balancing Innovation, Financial Inclusion and Consumer Protection

The plan outlined is needed to find a way to not pitting regulation against innovation. AI has the potential to make financial inclusion more affordable and enhance the credit evaluation process, thereby reaching populations who are traditionally underserved by traditional banks. Mhlanga had seen this potential and Ibrahim, Yau, and Ahmed explored its relevance to microfinance lending in Nigeria.⁵⁴ responsible inclusion was the right goal. Regulators should foster innovation and experimentation; they should also have made sure that innovation did not unfairly put at risk consumers who lack bargaining power. Graduated obligations might have afforded a better balance. Low-risk applications could have been subject basically to the normal governance and disclosure rules, while high-impact applications could have been mandated to undergo algorithmic impact assessments, further documentation, independent testing, human scrutiny and more stringent regulatory oversight.⁵⁵

Thus, the Nigerian model might have been centered on the impacts of AI as opposed to the same requirements on all applications.

CONCLUSION AND IMPLICATIONS

The study demonstrated that artificial intelligence has created substantial opportunities for Nigerian financial services while simultaneously exposing limitations within the existing regulatory architecture. AI has enabled more efficient practices, such as credit assessment, fraud detection, compliance, customer service and financial inclusion. Its promise of providing services to consumers who lacked access to traditional financial products has been especially promising. However, AI also presented challenges regarding algorithmic bias, black-box reasoning, privacy, cybersecurity, data quality, and exclusion mechanisms as well as the lack of clarity regarding institutional accountability.

The study has indicated that there has been no period when Nigeria was not under legal protection against these risks. The main bases for financial sector supervision has been the Central Bank of Nigeria Act 2007 and BOFIA 2020. CBN Consumer Protection Framework 2016 has enhanced concepts of fair treatment, transparency and consumer redress. All of these instruments has thus been important components of an evolving regulatory response, the FCCPA 2018 in terms of the wider rights of consumers and the NDPA 2023 regarding personal data and certain decisions made solely on the basis of automated processing.⁵⁶ Fragmentation was the main strength that had been lost. AI has shown no respect for institutional boundaries. One automated financial system would have raised questions regarding prudential supervision, consumer protection, data protection, cybersecurity and corporate governance. Technological neutrality—as is sometimes being touted—combined with no further governance requirements, might therefore have left significant risks largely unaddressed.

The study has thus suggested a responsible AI framework, which includes risk based algorithmic governance, algorithmic impact assessment, meaningful transparency, human oversight, institutional accountability, coordinated supervision and effective consumer redress. These measures have been aimed at

⁵² Uzougbo, Ikegwu and Adewusi (n 19).

⁵³ Kálmán (n 12).

⁵⁴ Mhlanga (n 2); Ibrahim, Yau and Ahmed (n 13).

⁵⁵ Makore (n 14).

⁵⁶ Central Bank of Nigeria Act 2007; Banks and Other Financial Institutions Act 2020; Central Bank of Nigeria, Consumer Protection Framework (2016); Federal Competition and Consumer Protection Act 2018; Nigeria Data Protection Act 2023.

aligning regulatory intervention with the potential impact of specific applications of AI, not making all technological applications subject to the same requirements.

The implications were both legal and institutional. There was a need for increasing technical capacities and better tools for inter regulatory cooperation. AI governance was no longer just a technological procurement decision, but a board level responsibility for financial institutions. Consumers must have significant rights of access to information, correction, human review and redress if the automated decision had a significant impact on their financial interests.

Responsible AI regulation essentially has not been a dichotomy of innovation versus consumer protection for Nigeria. It needs to have the legal system make certain technological innovations stay responsible to values currently built into financial regulation. AI should not have lowered the bar of institutional responsibility that applies to financial institutions. Instead, the increased speed, complexity and scale of automated decision making made more imperative the need for greater accountability. Nigeria's regulatory goal should thus have been a framework that allows AI to be a catalyst for financial innovation and inclusion, but also subject to fairness, transparency, privacy, human oversight and effective legal remedies.

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