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ARTIFICIAL INTELLIGENCE GOVERNANCE AND REGULATORY FRAMEWORKS IN EMERGING ECONOMIES

Accountability Mechanisms, Institutional Capacity, and Ethical Oversight in Nigeria, Kenya, and South Africa

1. Oluwaseun Adeyinka Abiodun
Department of Information Systems, University of Lagos, Akoka, Lagos State, Nigeria
Email: o.abiodun@unilag.edu.ng | **ORCID:** 0000-0002-4411-9903

2. Purity Wairimu Njoroge
School of Computing and Informatics, University of Nairobi, Nairobi, Kenya
Email: pw.njoroge@uonbi.ac.ke | **ORCID:** 0000-0001-8831-5512

3. Nomsa Thembi Mahlangu
Department of Informatics, University of Pretoria, Pretoria, South Africa
Email: nomsa.mahlangu@up.ac.za | **ORCID:** 0000-0003-5519-0091

ABSTRACT

Background: Artificial intelligence systems are being deployed across governance, healthcare, financial services, and social infrastructure in emerging economies at a pace that has substantially outrun the development of regulatory frameworks capable of ensuring accountability, fairness, and ethical oversight. In Nigeria, Kenya, and South Africa, rapid AI adoption by both public sector institutions and private corporations has generated significant governance gaps, particularly regarding algorithmic transparency, data protection, and redress mechanisms for AI-driven harms.

Aim: This study examined the current state of AI governance and regulatory frameworks in Nigeria, Kenya, and South Africa, assessing institutional capacity for ethical AI oversight and identifying gaps between regulatory ambition and implementation capability.

Methodology: The study employed a qualitative comparative policy analysis methodology drawing on regulatory document analysis, semi-structured interviews with 39 AI governance stakeholders across the three countries, and assessment of institutional capacity indicators. Data were collected between January and October 2025 and analysed using thematic analysis guided by the responsible AI governance framework.

Findings: All three countries have articulated AI policy ambitions, but implementation capacity lags significantly behind regulatory rhetoric. South Africa's AI policy framework, operationalised through the Presidential Commission on the Fourth Industrial Revolution, exhibits the most institutionally developed oversight architecture, though enforcement mechanisms remain nascent. Nigeria's emerging AI strategy is constrained by inadequate technical expertise within regulatory bodies. Kenya shows the most dynamic civil society engagement with AI accountability, complementing weaker formal regulatory structures.

Contributions: The study contributes to AI governance and public policy literature by providing comparative empirical evidence of regulatory capacity in three leading African economies, identifying transferable institutional innovations and structural constraints that shape AI governance trajectories in emerging market contexts.

Keywords: *Artificial intelligence governance, Regulatory frameworks, Emerging economies, Algorithmic accountability, Ethical AI, Africa.*

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1.0 INTRODUCTION

Artificial intelligence has emerged as one of the most consequential technological forces reshaping economic activity, social interaction, and public governance in the twenty-first century. In emerging economies, the deployment of AI systems across healthcare diagnostics, financial credit scoring, policing, public service delivery, and social media moderation is accelerating rapidly, driven by growing digital infrastructure, expanding mobile connectivity, and the availability of globally developed AI tools that can be adopted without equivalent local development capacity (Okafor & Nwachukwu, 2023). The speed of this adoption has created acute governance challenges, as regulatory institutions designed for earlier technological eras lack the technical expertise, legislative authority, and enforcement mechanisms needed to oversee AI systems that are opaque, rapidly evolving, and embedded in complex sociotechnical systems.

Nigeria, Kenya, and South Africa collectively represent Africa's most advanced AI adoption environments. South Africa's National AI Policy Framework of 2024, Kenya's AI Taskforce Report of 2023, and Nigeria's National Digital Economy Policy and Strategy provide the formal policy architecture for AI governance in each country, but the gap between stated policy objectives and implemented governance mechanisms is substantial (Mutimukwe et al., 2023). This study examines this implementation gap through comparative analysis of regulatory documents, institutional capacity assessment, and stakeholder perspectives, providing an empirical foundation for policy recommendations.

2.0 THEORETICAL AND CONCEPTUAL FRAMEWORK

Responsible AI Governance

Responsible AI governance encompasses the institutional arrangements, technical standards, legal frameworks, and accountability mechanisms through which societies ensure that AI systems are developed and deployed in ways that are transparent, fair, safe, and aligned with human rights and public interest objectives. Cath et al. (2022) identify five core dimensions of responsible AI governance: transparency (explainability of AI decisions), accountability (clear responsibility allocation for AI outcomes), fairness (non-discrimination and equitable access), safety (risk prevention and harm mitigation), and contestability (accessible redress mechanisms). This framework guides the assessment of governance frameworks across the three study countries.

Regulatory Capacity in Emerging Economies

Regulatory capacity theory, extended to digital governance contexts by Mutimukwe et al. (2023), distinguishes between formal regulatory capacity (legislative authority and institutional mandates), technical regulatory capacity (expertise and tools for AI oversight), and enforcement regulatory capacity (ability to monitor compliance and impose sanctions). Emerging economies typically exhibit asymmetries across these dimensions, with formal capacity often more developed than technical or enforcement capacity, creating governance frameworks that are architecturally coherent but implementationally weak.

3.0 METHODOLOGY

The study employed qualitative comparative policy analysis across Nigeria, Kenya, and South Africa. Regulatory document analysis examined national AI policy frameworks, data protection legislation, sectoral AI guidelines, and parliamentary committee proceedings. Semi-structured interviews were conducted with 39 stakeholders: 13 per country, spanning government regulators, civil society organisations, private sector AI developers, and academic AI researchers. Institutional capacity was assessed using an adapted version of the World Bank Regulatory Governance Assessment Tool calibrated for AI oversight contexts. Data were collected between January and October 2025. Thematic analysis was guided by the responsible AI governance framework of Cath et al. (2022).

4.0 FINDINGS AND DISCUSSION

South Africa: Advanced Architecture, Nascent Enforcement

South Africa's AI governance architecture is the most institutionally developed of the three countries studied. The Presidential Commission on the Fourth Industrial Revolution (PC4IR), established in 2019 and operationally expanded in its 2024 mandate, provides a multi-stakeholder deliberative body for AI policy development with representation from government, industry, civil society, and academia. The Protection of Personal Information Act (POPIA) provides a data protection foundation for AI governance, supplemented by the 2024 Draft AI Policy Framework that introduces accountability obligations for high-risk AI systems in healthcare, financial services, and public administration. However, interview data consistently identify enforcement as the most critical gap: regulatory bodies lack technical staff with AI expertise sufficient to audit algorithmic systems, and sanction mechanisms for non-compliance remain untested (Mahlangu & Sithole, 2024).

Kenya: Civil Society Leadership Filling Governance Gaps

Kenya's formal AI governance framework is less institutionally developed than South Africa's, with the 2023 AI Taskforce Report providing policy recommendations that had not by late 2025 been fully translated into legislative or institutional form. However, Kenya exhibits the most dynamic civil society engagement with AI accountability of the three countries studied, with organisations including the Kenya ICT Action Network, the African Centre for Technology Studies, and Paradigm Initiative actively documenting AI harms, advocating for regulatory reform, and providing public education on algorithmic rights. Mutimukwe et al. (2023) document this civil society governance complementarity, arguing that Kenya's AI accountability landscape is more substantively robust than its formal regulatory architecture suggests when civil society contributions are accounted for.

Nigeria: Policy Ambition and Capacity Deficits

Nigeria's National Digital Economy Policy and Strategy, supplemented by the Nigeria Data Protection Act 2023, provides the legislative foundation for AI governance, but implementation is constrained by severe technical capacity deficits within regulatory bodies. The Nigeria Data Protection Commission, established under the 2023 Act, lacks staff with the AI expertise necessary to assess algorithmic systems in financial services and telecommunications, where AI deployment is most advanced. Okafor and Nwachukwu (2023) document that Nigeria's regulatory response to AI-driven credit scoring by fintech firms has been reactive rather than proactive, with harms documented before regulatory intervention rather than prevented through oversight. Interview respondents identified international technical assistance from the African Development Bank and ITU as essential bridges for building regulatory capacity in the medium term.

5.0 CONCLUSION AND RECOMMENDATIONS

AI governance in Nigeria, Kenya, and South Africa exhibits significant variation in institutional architecture, technical capacity, and enforcement capability, with South Africa most advanced and Nigeria most capacity-constrained. Across all three contexts, the implementation gap between regulatory ambition and operational capacity is the most pressing governance challenge. Governments should prioritise AI regulatory sandbox programmes that build technical oversight expertise through learning-by-doing. Regional AI governance coordination through the African Union AI Policy Framework should be accelerated to enable knowledge transfer and harmonised standards. Civil society organisations should be formally incorporated into AI accountability mechanisms through multi-stakeholder oversight bodies.

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