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REIMAGINING GOVERNANCE ARCHITECTURE IN NIGERIA'S DIGITAL AGE THROUGH LEADERSHIP, ACCOUNTABILITY AND ADMINISTRATIVE RESPONSIBILITY

Goyit, Grace Ebweseh, Imosemi, Prince Omobokhai

Department of Public Administration, Veritas University, Abuja

gracegoyit@gmail.com / 0817 693 2705, princeimosemi1@gmail.com

ORCID ID: 000900014926861X, 0009-0007-2780-8762

Abstract

Digital transformation is reshaping how governments organise authority, coordinate institutions, manage information, deliver services and account for administrative decisions, yet procuring digital infrastructure does not necessarily equate to digital governance. This article examines Nigeria's digital-government transition as a governance architectural problem, focusing on how digitalisation affects institutional authority, leadership, coordination, accountability and administrative responsibility. The study adopted a qualitative conceptual-analytical design based on an integrative literature review with documentary analysis. Peer-reviewed journals and authoritative Nigerian legislative, policy and regulatory documents were examined and thematically synthesised; the theories used for the study are Digital Era Governance and Institutional Theory. The analysis identifies five interconnected challenges: digital expansion without equivalent institutional reintegration; the transition from hierarchical leadership towards institutional orchestration; increasing technical transparency alongside more complex accountability; diffusion of administrative responsibility through digitally mediated and automated decision-making; and persistent weaknesses in interoperability and inter-agency coordination. The article argues that Nigeria's digital transformation will remain institutionally incomplete where technological modernisation proceeds without corresponding changes in authority, process ownership, data governance and accountability. The article recommends a governance architecture centred on accountable digital leadership, well-defined processes, governed interoperability, oversight and citizen-centred accountability and compensation. The article contributes to digital governance by repositioning digital transformation from a predominantly technological reform agenda to an institutional Public Administration problem.

Keywords: Digital governance; governance architecture; digital transformation; administrative responsibility; digital leadership; accountability.

Introduction

Digital technologies have moved from general administrative tools to structures through which the authority of government is implemented: the structure of information flow, institutional coordination, public service delivery, and citizens' perception of the state. Digital transformation therefore is not limited to converting records or uploading services online; it changes administrative processes, organisational relationships, institutional culture and decision authority. Mergel et al. (2019) describe it as organisation-wide change, while Haug et al. (2024) show that digitally induced change has structural and behavioural consequences across public organisations.

Public administration is the foundation of digital technology in Nigeria. Through digital identity systems, payroll and financial management, taxation, procurement, records administration and public services, replicating the growth of the country's digital-government agenda (Federal Ministry of Communications and Digital Economy, 2019; National Information Technology Development Agency, 2024; Shenkoya, 2023, 2025). This does not indicate that digital platforms equate to digital governance. Digitalisation can, therefore, exist with fragmented data, infrastructural challenges, weak inter-organisational coordination and institutional limitations that restrict effective integration (Shenkoya, 2023, 2025). Therefore, the gap is not simply whether Nigerian institutions are being digitised, but whether the underlying governance architecture is evolving adequately to coordinate institutions, data and responsibility within an increasingly digital administrative system (Haug et al., 2024; Organisation for Economic Co-operation and Development, 2020; United Nations Department of Economic and Social Affairs, 2024).

Governance architecture, as defined in this article, refers to the institutional configuration through which public authority, organisational roles, decision rights, information flows, inter-agency relationships and accountability responsibilities are structured. This conception reflects scholarship showing that digital transformation reshapes not only technological capabilities but also organisational structures, institutional relationships, data governance and the distribution of administrative authority (Haug et al., 2024; Hinings et al., 2018; Kuziemski & Misuraca, 2020; Organisation for Economic Co-operation and Development, 2020). It therefore shifts analytical attention from technology itself to the institutional arrangements governing its use. Although a digital platform may technically connect several agencies, effective and legitimate digital governance requires clearly defined rules concerning data stewardship, institutional roles, process and decision ownership, inter-agency coordination and responsibility for technologically mediated outcomes (Busuioc, 2021; Organisation for Economic Co-operation and Development, 2020; United Nations Department of Economic and Social Affairs, 2024).

Nigeria illustrates the distinction between technological adoption and institutional transformation. Shenkoya (2023, 2025) finds that digitalisation can strengthen transparency and accountability, but infrastructure constraints, fragmented data practices and weak inter-organisational communication limit these gains. Technology may therefore modernise transactions without correcting the administrative fragmentation through which they are governed.

Digital Era Governance provides a foundation for addressing this problem. Dunleavy et al. (2006) emphasise reintegration, needs-based holism and digitally enabled administrative change, while later scholarship highlights integrated, citizen-oriented services (Ravšelj et al., 2022). For Nigeria, digital transformation should reconnect administrative processes around citizens' needs rather than reproduce ministerial boundaries electronically.

Digitalisation also complicates leadership and accountability. A single service may involve a ministry, ICT unit, another agency's database, a private provider and automated rules, making responsibility difficult to locate. Leadership must therefore extend beyond hierarchy to coordinating interdependent institutions, technologies and professionals. Effective digital leadership combines strategic direction, technological understanding, organisational adaptation and transformation management (Adie et al., 2024).

Accountability is equally affected. Digital systems can improve traceability through electronic records, timestamps and audit trails. However, technical traceability does not necessarily establish administrative answerability. A system may record how a decision was processed without identifying which institution or official should explain and justify the outcome. Digital government must therefore preserve a fundamental Public Administration principle: although administrative activities may be automated, administrative responsibility cannot be automated away.

Existing Nigerian literature has examined e-government adoption, efficiency, transparency and service delivery. Less attention has been given to how digitalisation redistributes authority, alters leadership requirements and complicates responsibility across interconnected institutions. This article addresses that gap by examining digital transformation as a problem of governance architecture. It asks how Nigeria should reorganise authority, coordination, leadership and accountability so that digitally mediated administration remains lawful, coherent and publicly responsible.

The central argument is that Nigeria's next phase of digital reform must move beyond multiplying platforms towards redesigning the institutional relationships surrounding them. This requires clear allocation of data ownership, process ownership, decision responsibility, human oversight and inter-agency accountability. Such institutional realignment marks the difference between digitising governmental activities and constructing an effective architecture of digital governance.

2. Conceptual and Theoretical Framework

Digital transformation in government extends beyond digitisation (converting analogue information into electronic form) and digitalisation (using technology to improve existing processes). It involves deeper changes in organisational structures, operational processes, institutional culture and relationships with citizens. Public-sector scholarship therefore treats digital transformation as an organisational and institutional process, not merely technology acquisition (Haug et al., 2024; Mergel et al., 2019; Tangi et al., 2021).

Government can nevertheless digitise records and services while leaving fragmented mandates, duplicated approvals and weak coordination intact. Transformation becomes meaningful when technology changes how institutions organise authority, coordinate functions and serve citizens (Haug et al., 2024; Ravšelj et al., 2022).

Digital government and digital governance are therefore related but conceptually distinct. Digital government concerns the use of data, technologies and platforms in governmental operations and public-service delivery. Digital governance extends to the rules, institutions and accountability relationships through which those technologies are directed, coordinated and controlled. It includes data stewardship, interoperability, privacy, cybersecurity, citizen rights and the allocation of administrative responsibility (Organisation for Economic Co-operation and Development, 2020; Tangi et al., 2021; United Nations Department of Economic and Social Affairs, 2024).

For Nigeria, the distinction is particularly consequential. The expansion of digital platforms demonstrates growing technological capacity but does not necessarily establish that institutional mandates, data-sharing practices and accountability relationships have become integrated. Nigerian evidence suggests that weak infrastructure, fragmented data arrangements and limited inter-

organisational communication continue to constrain the governance benefits of digital transformation (Shenkoya, 2023, 2025). The appropriate measure of transformation is therefore not simply the number of services placed online, but whether those services operate within a coherent, lawful and publicly accountable administrative system.

2.1 Governance Architecture

Governance architecture is the article's central analytical concept. It refers to the institutional configuration through which authority, organisational roles, decision rights, data flows, coordination and accountability are structured. This understanding reflects the broader recognition that digital transformation changes not only technical capabilities but also organisational forms, institutional relationships and the distribution of administrative power (Haug et al., 2024; Hinings et al., 2018; Kuziemski & Misuraca, 2020).

For the purposes of this article, governance architecture is expressed as:

Governance Architecture = Authority + Institutional Roles + Decision Rights + Data Flows + Coordination + Accountability

Authority identifies who may initiate, approve, modify or terminate an administrative action. Institutional roles identify participating agencies and external providers; decision rights specify who may decide and under what conditions; data flows concern collection, access, modification and sharing; coordination aligns participating institutions; and accountability identifies who must explain and justify the resulting decision.

These components are interdependent. Connecting government databases without defining data ownership, access rights and decision responsibility may produce technical interoperability without establishing effective governance. Similarly, automating a service without determining who can review, correct or reverse the resulting decision may improve administrative speed while weakening answerability and redress. Research on public-sector artificial intelligence similarly demonstrates that technological integration can disperse authority and obscure responsibility unless accountability is deliberately incorporated into institutional design (Busuioc, 2021; Kuziemski & Misuraca, 2020; Zuiderwijk et al., 2021).

Governance architecture is consequently broader than an organisational chart. While an organisational chart identifies formal offices and reporting relationships, governance architecture explains how authority, information and responsibility operate across institutional boundaries. This distinction is increasingly important because citizens may experience a service as a single transaction even though several agencies, databases and technology providers contribute to its delivery (Organisation for Economic Co-operation and Development, 2020; United Nations Department of Economic and Social Affairs, 2024).

2.2 Digital Era Governance

Digital Era Governance provides the principal theoretical explanation of how government should respond to technological transformation. Its foundational formulation identifies three connected reform directions: reintegration, needs-based holism and digitisation (Dunleavy et al., 2006). More recent scholarship shows that these ideas have developed towards integrated platforms, citizen-centred services and data-driven government, thereby sustaining the framework's relevance to contemporary public administration (Ravšelj et al., 2022).

Reintegration requires government to reconnect functions and processes divided across ministries, agencies and specialised administrative units. Digital public services frequently depend upon information and decisions held by several institutions. Their effectiveness therefore requires institutional agreement concerning mandates, information exchange, process ownership and

responsibility, rather than the technical connection of information systems alone (Dunleavy et al., 2006; Organisation for Economic Co-operation and Development, 2020; United Nations Department of Economic and Social Affairs, 2024).

Needs-based holism requires public services to be organised around citizens' needs rather than the internal boundaries of government institutions. Citizens should not be compelled to navigate several agencies because responsibilities are administratively fragmented. Digital platforms should facilitate a coherent encounter with the state by coordinating the relevant institutions behind the service interface (Dunleavy et al., 2006; Ravšelj et al., 2022).

Digitisation, within this theoretical perspective, involves using technology to redesign administrative processes rather than merely transferring established procedures online. Reproducing inefficient approvals, duplicated records and fragmented responsibilities electronically may increase accessibility without producing institutional transformation. Contemporary research therefore evaluates digital reform increasingly in terms of organisational change, public value and citizen-centred outcomes (Haug et al., 2024; Ravšelj et al., 2022; Tangi et al., 2021).

Applied to Nigeria, Digital Era Governance suggests that reform should be assessed by the extent of institutional reintegration, citizen-centred service organisation and administrative redesign. The framework redirects attention from the number of platforms created to the quality of the governance relationships supporting them.

2.3 Institutional Theory

Institutional Theory complements Digital Era Governance by explaining why technological adoption may occur without substantive administrative transformation. Public organisations operate within environments shaped by legislation, political directives, professional expectations and international standards. Such pressures may encourage formally approved technologies even where internal capacity, routines and accountability arrangements remain largely unchanged (Bennich, 2024; Pan & Fan, 2023).

Institutional scholarship also explains how formal reform can become decoupled from operational practice (Meyer & Rowan, 1977). It identifies coercive, mimetic and normative pressures as important influences on organisational behaviour: coercive pressures arise from law and central directives; mimetic pressures encourage imitation of apparently successful institutions; and normative pressures arise from professional standards and accepted practices (DiMaggio & Powell, 1983). Recent studies confirm that these mechanisms continue to shape digitalisation and e-government capability (Bennich, 2024; Pan & Fan, 2023).

These pressures may support innovation, but they can also generate symbolic compliance. A public institution may create a digital platform while retaining manual approvals, formally endorse interoperability while preserving separate databases, or adopt data-protection policies without effective implementation. In such cases, the formal reform becomes decoupled from operational practice—a problem long recognised in institutional analysis and increasingly relevant to digital government (Bennich, 2024; Hinings et al., 2018; Meyer & Rowan, 1977).

The relevant question is therefore not merely whether digital reform has been adopted but whether it has become institutionalised. Institutionalisation occurs when reform changes routine administrative behaviour, authority relationships, decision procedures and accountability practices. Without such changes, technological modernisation remains disconnected from the institutional foundations of public administration.

2.4 Integrated Theoretical Position

Digital Era Governance and Institutional Theory address complementary aspects of the research problem. Digital Era Governance explains the desired direction of reform—reintegration, citizen-centred administration and digitally enabled process redesign. Institutional Theory explains why movement in that direction may remain uneven, symbolic or constrained by established bureaucratic practices (Bennich, 2024; Dunleavy et al., 2006; Ravšelj et al., 2022).

The combined theoretical relationship is expressed as:

Digital pressure -> institutional response -> [governance-architecture redesign OR digital-institutional decoupling] -> administrative outcomes

Governance-architecture redesign occurs when technological adoption is accompanied by clearly allocated authority, coordinated institutions, effective data governance and identifiable accountability. Digital-institutional decoupling occurs when sophisticated technologies coexist with fragmented mandates, duplicated processes and uncertain responsibility.

The article therefore proposes that digitalisation becomes genuine governance transformation only when technological change is matched by the institutional realignment of authority, leadership, coordination, accountability and administrative responsibility. Nigeria's central digital-governance challenge is not merely to expand technological capacity but to ensure that its administrative institutions evolve alongside it.

Methodology

3.1 Research Design

The article adopted a qualitative conceptual-analytical design combining an integrative literature review with documentary analysis. This design was appropriate because the study seeks to explain how digital transformation affects the institutional organisation of authority, leadership, accountability and administrative responsibility rather than estimate the statistical relationship between predetermined variables. Integrative reviews are particularly suitable for combining theoretical, empirical and policy-oriented evidence across related fields and developing new conceptual interpretations from the resulting synthesis (Kraus et al., 2022; Snyder, 2019).

The study approached digital governance as an institutional and Public Administration problem. It therefore examined digital transformation in relation to bureaucratic coordination, public authority, organisational responsibility, administrative discretion and accountability rather than treating it as a purely technological development.

3.2 Sources and Search Strategy

The evidence comprised peer-reviewed scholarship and authoritative documentary materials. Scholarly sources addressed Digital Era Governance, public-sector digital transformation, institutional change, digital leadership, data governance, accountability, administrative responsibility and artificial intelligence in government. Documentary sources included Nigerian legislation, digital-development policies, administrative-reform strategies and regulatory frameworks.

Relevant literature was identified through Scopus, Web of Science, Google Scholar, African Journals Online and publisher databases. Search terms were combined around the study's principal concepts, including "digital governance," "public administration," "Digital Era Governance," "digital leadership," "institutional change," "algorithmic accountability," "administrative responsibility," "data governance," and "Nigeria."

The principal publication period was 2020–2026. Earlier studies were retained only where they established indispensable theoretical or methodological concepts, including Digital Era Governance, institutional isomorphism and documentary analysis. Searches and final document verification were completed in September 2026. The final analytical corpus comprised 41 sources: 28 peer-reviewed

academic publications and 13 authoritative legislative, policy and institutional documents. This ensured that contemporary evidence dominated the analysis while preserving the foundational literature on which the theoretical argument rests.

Sources were included where they addressed public-sector digital transformation, institutional coordination, digital leadership, accountability, administrative responsibility, data governance or Nigerian digital reforms. Materials concerned exclusively with private-sector digitalisation, technical engineering or software performance were excluded unless they had a direct public-governance implication. Sources without identifiable academic or institutional provenance were also excluded.

3.3 Documentary and Thematic Analysis

Documentary analysis was used to examine how Nigeria's legal and policy frameworks allocate authority and responsibility within the emerging digital state. Documentary analysis is valuable because official documents do not merely describe governmental intentions; they also reveal formal mandates, policy priorities and institutional relationships (Bowen, 2009).

The documents were examined using questions derived from the governance-architecture framework: Which institution exercises authority? Who controls the relevant data? How are responsibilities distributed? What mechanisms govern inter-agency coordination? Where is accountability located? What provisions exist for human oversight, review and redress?

The literature and documentary evidence were synthesised thematically. Initial analytical categories included institutional reintegration, digital leadership, data governance, inter-agency coordination, accountability, administrative responsibility, technologically mediated discretion and citizen-centred administration. The analysis subsequently examined relationships and tensions across these categories rather than presenting the findings source by source. This form of thematic interpretation makes it possible to identify recurring patterns across heterogeneous evidence while retaining sensitivity to institutional context (Braun & Clarke, 2021).

Digital Era Governance was used to assess reintegration, needs-based holism and administrative redesign. Institutional Theory was applied to determine whether formal digital adoption produced substantive organisational change or digital-institutional decoupling. Evidence from academic and official sources was compared to distinguish policy commitments from reported implementation realities.

3.4 Analytical Rigour and Limitations

Analytical rigour was strengthened through source triangulation, verification of publication provenance and comparison between scholarly evidence, legislation and official policy documents. Priority was given to peer-reviewed articles, identifiable DOI records and documents issued by recognised governmental or international institutions.

The design nevertheless has limitations. It does not provide statistical estimates of digital-governance performance or claim uniformity across Nigeria's public institutions. Its contribution is conceptual and explanatory: it develops an institutionally grounded interpretation of how digital transformation is affecting, and sometimes failing to transform, the architecture of Nigerian public administration.

Findings and Analytical Themes

The synthesis identifies five interrelated features of Nigeria's digital-government transition: technological expansion without equivalent institutional reintegration; changing leadership requirements; increased technical transparency accompanied by more complex accountability; diffusion of administrative responsibility; and continuing weaknesses in interoperability and inter-

agency coordination. Collectively, these findings indicate that Nigeria's central digital challenge is increasingly institutional rather than merely technological.

4.1 Digital Expansion Without Institutional Reintegration

Digital technologies have become embedded in Nigeria's public-sector reform agenda. Their application extends across identity management, payroll administration, taxation, public finance, procurement, records management and citizen-facing services. The National Digital Economy Policy and Strategy, the Nigeria Data Protection Act 2023 and NITDA's Strategic Roadmap and Action Plan 2024–2027 demonstrate the government's intention to develop a more extensive digital ecosystem (Federal Ministry of Communications and Digital Economy, 2019; Federal Republic of Nigeria, 2023; National Information Technology Development Agency, 2024).

These initiatives establish an important policy foundation but do not demonstrate institutional integration. Nigerian studies still identify fragmented data systems, infrastructure constraints and weak inter-organisational communication (Shenkoya, 2023, 2025). NITDA's Strategic Roadmap and Action Plan 2.0 itself lists digital-public-infrastructure regulatory standards and a data-exchange framework as implementation priorities (National Information Technology Development Agency, 2024), indicating that the governance rules for integrated digital infrastructure remain an ongoing reform agenda.

The problem can be expressed as:

Digital expansion ≠ institutional reintegration

A ministry may possess electronic records, online platforms and automated processes while continuing to operate through isolated databases, duplicated approvals and poorly coordinated responsibilities. Digital technologies may consequently reproduce existing bureaucratic fragmentation in electronic form. This pattern represents digital-institutional decoupling: technological modernisation advances while underlying administrative arrangements remain substantially unchanged.

From a Digital Era Governance perspective, successful transformation requires the reintegration of processes previously divided across administrative units (Dunleavy et al., 2006; Ravšelj et al., 2022). Nigeria's progress should therefore be assessed not only by the visibility of its platforms but by whether these platforms support coordinated authority, shared processes and citizen-centred administration.

4.2 From Hierarchical Leadership to Institutional Orchestration

The evidence also indicates that digitalisation is changing the nature of public-sector leadership. Conventional bureaucratic leadership relies principally on authority exercised within defined organisational hierarchies. Digital government increasingly depends on relationships among administrative officials, ICT professionals, data-protection officers, regulators, other government agencies and private technology providers. Leaders may therefore remain responsible for outcomes produced by actors and systems beyond their direct hierarchical control.

Recent studies conceptualise public-sector digital leadership as a combination of strategic vision, technological understanding, organisational change capability, stakeholder coordination and public-value orientation (Adie et al., 2024; Haug et al., 2024; Tangi et al., 2021). These studies converge on the conclusion that digital leadership is not synonymous with technical expertise. Its defining feature is the ability to align technology, institutions and administrative purposes.

This article describes that responsibility as **institutional orchestration**. It involves coordinating interdependent organisations, clarifying process ownership, establishing data responsibilities and ensuring that technological decisions remain connected to public purposes. Nigerian digital-policy

frameworks increasingly recognise capacity development, strategic partnerships and organisational reform as components of digital transformation (Federal Ministry of Communications and Digital Economy, 2019; National Information Technology Development Agency, 2024).

The implication is that senior public officials cannot delegate the governance of digital systems entirely to technical personnel. ICT professionals may design and operate systems, but decisions concerning legality, fairness, administrative purpose and public accountability remain leadership responsibilities. Digital competence should therefore become part of senior administrative capability without displacing the constitutional and ethical foundations of public service.

4.3 Technical Transparency and Complex Accountability

Digital systems can strengthen transparency by producing electronic records, transaction histories, timestamps and audit trails. These capabilities may improve monitoring, reduce undocumented discretion and make irregular administrative activities easier to detect. Studies of digital public services consequently identify transparency and accountability as important potential outcomes of well-designed digital transformation (Matheus et al., 2021; Shenkoya, 2023).

However, the evidence also shows that greater information visibility does not necessarily produce clearer accountability. Accountability requires an identifiable person or institution that must explain and justify a decision, not merely a technical record showing that the decision occurred. Algorithmic and digitally mediated systems may distribute responsibility among administrators, technology units, system designers, data providers and external vendors (Busuioc, 2021; Kuziemski & Misuraca, 2020; Yuan & Chen, 2025).

The resulting distinction is fundamental:

Technical traceability ≠ administrative accountability

A digital platform may record every stage of a transaction without identifying who bears substantive responsibility for its outcome. Effective digital accountability therefore requires the integration of traceability with answerability, review and enforceable consequences. Recent AI-governance research similarly emphasises that transparency must be accompanied by institutional oversight, contestability and clearly allocated responsibilities (Wirtz et al., 2022; Yuan & Chen, 2025; Zuiderwijk et al., 2021).

For Nigeria, strengthening digital accountability requires more than publishing information or maintaining electronic audit trails. Public institutions must identify which official or agency owns each process, who has authority to correct an error and where citizens can challenge adverse decisions. Without such arrangements, transparency may expose an administrative problem without providing an effective avenue for responsibility or redress.

4.4 Diffusion of Administrative Responsibility

Digitalisation is also altering the location of administrative discretion. Decisions traditionally made directly by public officials may now be influenced by automated rules, data models and algorithmic recommendations. Young et al. (2019) describe this development as artificial discretion, highlighting how digital systems can augment or partially replace human judgement in public administration.

Recent research indicates that public-sector AI can improve consistency, speed and analytical capacity while generating risks relating to bias, opacity, privacy and diminished human control (Chen et al., 2023; Fischer-Abaigar et al., 2024; Misuraca & van Noordt, 2020; van Noordt & Misuraca, 2022; Zuiderwijk et al., 2021). Accountability becomes especially difficult where officials rely on systems they did not design, cannot fully explain or regard as more authoritative than their own judgement. Emerging experimental evidence further suggests that AI assistance can affect officials' perceptions of discretion and personal accountability (Alon-Barkat & Busuioc, 2023).

Nigeria's National Artificial Intelligence Strategy (2025) and the Nigeria Data Protection Act 2023 provide an emerging foundation for responsible data processing and ethical technological development. The strategy explicitly includes responsible and ethical AI development and a robust AI-governance framework among its strategic pillars. Nevertheless, broad policy principles must be translated into specific administrative arrangements governing human review, data quality, system auditing, appeal and institutional liability (Federal Ministry of Communications, Innovation and Digital Economy, 2025; Federal Republic of Nigeria, 2023).

The Public Administration implication is clear: automation may redistribute administrative activity, but it cannot extinguish administrative responsibility. Every consequential digital decision must remain connected to an identifiable institution and an authorised human officer capable of explaining, reviewing and, where necessary, reversing the outcome.

4.5 Interoperability and the Coordination Deficit

Interoperability is commonly treated as the ability of different information systems to exchange and use data. From a governance perspective, it is equally a question of authority and coordination. Information should not move between institutions merely because their systems can communicate. Its exchange must be based on lawful purpose, defined access rights, security safeguards and clearly allocated responsibility (Organisation for Economic Co-operation and Development, 2020; United Nations Department of Economic and Social Affairs, 2024).

Nigeria's current digital policies increasingly support integrated data systems, digital public infrastructure and coordinated service delivery. However, empirical evidence continues to identify institutional fragmentation and weak inter-agency communication as constraints on implementation (Shenkoya, 2023, 2025). This indicates an interoperability-governance deficit rather than a purely technical interoperability problem.

Technical interoperability asks whether systems can communicate. Governance interoperability asks: *Under whose authority should the systems communicate, for what administrative purpose, using whose data, subject to which safeguards, and with whom does responsibility for the resulting decision rest?*

To bridge this gap, governance interoperability must move beyond abstract frameworks to practical administrative workflows. Consider the Federal Road Safety Corps (FRSC) and Vehicle Inspection Office (VIO), whose functions intersect within Nigeria's broader vehicle and driver administration system while remaining institutionally distinct. The FRSC documentation describes a multi-agency arrangement in which the VIO and State Internal Revenue Services perform different but interdependent functions in administering National Driver's Licence, while its documented vehicle-registration process requires coordination among licensing authorities, VIO and the FRSC's National Vehicle Information System (NVIS) (Federal Road Safety Corps, 2022). Rather than necessarily merging such institutions, governance interoperability can provide a mechanism through which their distinct mandates are preserved while relevant information and administrative processes are digitally connected under clearly defined statutory responsibilities, access rights and data-governance arrangements. The implication is that institutional independence need not preclude integrated service delivery. This principle is also reflected in contemporary digital-government practice, where interoperability and structured data sharing are used to connect public-sector organisations while retaining distinct institutional responsibilities.

The distinction summarises the findings. Nigeria is developing the technological capacity for increasingly integrated administration, but the associated governance arrangements remain uneven.

The next phase of reform must therefore align digital infrastructure with institutional authority, leadership, coordination and administrative responsibility.

Reimagining Nigeria's Digital Governance Architecture

The findings indicate that Nigeria requires more than additional digital platforms. It needs an institutional architecture that aligns technological capacity with public authority, leadership, accountability and administrative responsibility. This architecture should be organised around five mutually reinforcing principles.

5.1 Accountable Digital Leadership

Digital transformation should become an explicit responsibility of senior public leadership rather than being treated exclusively as an ICT function. Permanent secretaries, directors and heads of agencies should possess sufficient digital competence to oversee data use, automated processes, cybersecurity risks and technology-supported decisions. However, technical knowledge must remain anchored in legality, public value and administrative ethics (Adie et al., 2024; Haug et al., 2024).

Each ministry or agency should establish a senior-level digital-governance structure connecting administrative leadership, ICT management, legal services, data protection, internal audit and service-delivery units. This would reduce the separation between technological implementation and substantive administrative responsibility.

5.2 Defined Process and Decision Ownership

Every significant digital service should have an identifiable process owner, data owner and decision owner. Process ownership establishes responsibility for the complete administrative workflow. Data ownership identifies the institution responsible for data quality, access and lawful use. Decision ownership locates responsibility for outcomes produced or supported by a digital system.

A formal responsibility map should accompany every cross-agency platform. Such a map should identify participating institutions, decision rights, escalation procedures and liability where a system fails. This would address the diffusion of responsibility that commonly accompanies digitally mediated and algorithmic administration (Busuioc, 2021; Yuan & Chen, 2025).

5.3 Governed Interoperability

Interoperability should be treated as an institutional arrangement rather than simply a technical achievement. Data-sharing agreements should specify the legal purpose of exchange, authorised users, security obligations, retention periods and responsibility for inaccurate or misused information. This approach is consistent with contemporary international principles concerning public data governance and digital public infrastructure (African Union, 2022; Organisation for Economic Co-operation and Development, 2020, 2021; World Bank, 2021, 2022).

Nigeria therefore needs enforceable whole-of-government interoperability standards supported by the Nigeria Data Protection Act 2023. Shared systems should operate within common governance rules while preserving the statutory mandates of participating institutions.

5.4 Human Oversight and Algorithmic Accountability

Where automated or AI-supported systems influence consequential public decisions, citizens must retain the right to obtain an explanation and request human review. Public institutions should maintain registers of high-impact automated systems, conduct risk and impact assessments and subject such systems to periodic independent audits. These safeguards reflect emerging standards for responsible public-sector AI governance (African Union, 2024; United Nations Educational, Scientific and Cultural Organization, 2021; Yuan & Chen, 2025).

Human oversight should be substantive rather than ceremonial. The reviewing official must possess the authority, competence and information required to reconsider and reverse a system-generated outcome. Responsibility should not be displaced to a technology vendor or concealed behind technical complexity.

5.5 Citizen-Centred Accountability and Redress

Digital transformation should simplify citizens' encounters with government while preserving accessible channels for complaints, correction and appeal. Digital services should clearly communicate which institution is responsible, what information was used, how decisions can be challenged and the period within which complaints will be resolved.

The effectiveness of digital governance should consequently be assessed through public-administration outcomes: service accessibility, institutional coordination, procedural fairness, responsiveness and public trust. This citizen-centred orientation would move Nigeria from platform proliferation towards an integrated digital state in which technological efficiency operates alongside democratic accountability and administrative responsibility.

Conclusion

Digital government creates opportunities for efficiency, transparency, coordination and citizen access, but technological expansion does not automatically produce institutional transformation. Platforms may coexist with fragmented mandates, disconnected databases, duplicated processes and uncertain responsibility. Nigeria's central challenge is therefore not simply acquiring more technology, but organising and controlling public authority within an increasingly digital administrative environment.

Leveraging Digital Era Governance and Institutional Theory, the article shows that genuine digital transformation requires both institutional reintegration and substantive changes in administrative practice. Where technology is introduced without corresponding reforms in authority, coordination and accountability, digital-institutional decoupling occurs. Government may appear technologically modern while retaining the organisational weaknesses that previously limited administrative performance.

The article accordingly proposes a governance architecture founded on accountable digital leadership, clearly defined process and decision ownership, governed interoperability, meaningful human oversight and citizen-centred redress. These elements are necessary to ensure that digital systems remain instruments of public administration rather than unaccountable substitutes for it.

The principal contribution of the article is its repositioning of Nigeria's digital transformation as a problem of governance architecture. It moves the debate beyond technology adoption and service automation by demonstrating that the sustainability of digital government depends on how authority, data, leadership and responsibility are institutionally aligned.

Nigeria's digital future will depend not only on sophisticated platforms but on the quality of the institutions governing them. Technology may support or automate administrative decisions, but it cannot assume the constitutional, ethical and democratic responsibility attached to public authority. Administrative responsibility cannot be automated away.

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