

**DIGITAL MATURITY AND ADMINISTRATIVE PERFORMANCE: A COMPARATIVE STUDY
OF FEDERAL AND STATE MINISTRIES IN RIVERS STATE**

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Abstract

Digital maturity has become a central benchmark for evaluating how public institutions convert technology investment into administrative outcomes. This study examines the relationship between digital maturity and administrative performance in federal and state ministries operating within Rivers State, Nigeria, with a specific interest in whether differences in fiscal capacity, staffing structure, and regulatory oversight produce measurable variation in digital readiness between the two tiers of government. The study is anchored on the Technology-Organization-Environment framework, institutional theory, and public value theory, which together explain how technological capability, organizational disposition, and the external regulatory environment interact to shape service outcomes in bureaucratic settings. Using a qualitative comparative and doctrinal research design that draws on documentary evidence, government policy instruments, and empirical literature published between 2020 and 2026, the study finds that federal ministries in Rivers State have recorded faster gains in digital workflow adoption following the 2025 paperless transition directive, while state ministries continue to depend heavily on manual and semi-digitized processes due to constrained information technology budgets, limited staff digital competence, and weaker institutional enforcement mechanisms. The comparative analysis further shows that administrative performance, measured in terms of turnaround time, transparency, and record integrity, correlates more closely with the presence of sustained institutional pressure and dedicated digital infrastructure than with the size of the ministry or its statutory mandate. The study concludes that digital maturity in Nigeria's federating units remains uneven and recommends harmonized digital literacy programmes, ring-fenced information technology budgets at the state level, and an intergovernmental digital governance framework to narrow the performance gap between federal and state ministries.

Keywords: *Digital Maturity, Administrative Performance, Federal Ministries, State Ministries, E-Governance, Public Administration, Digital Transformation*

Introduction

Public administration across the world is undergoing a period of sustained technological reconfiguration in which the ability of government institutions to plan, acquire, and embed digital tools into daily administrative routines has become a defining measure of institutional capacity. Digital maturity, understood as the degree to which an organization has integrated digital technology into its processes, culture, and decision structures, has moved from being a peripheral concern of information technology departments to a core determinant of how ministries, departments, and agencies deliver public value (Alikornwo et al., 2025; Waara, 2025; Zakiuddin et al., 2024). Governments that have advanced furthest along this continuum report shorter service turnaround times, improved record integrity, and stronger public trust, while those still anchored to paper-based

routines continue to struggle with duplication, delay, and weak accountability (Alikornwo, 2026; Novienty et al., 2025).

Nigeria's federal structure presents a particularly useful setting in which to examine this phenomenon because it houses two distinct tiers of executive bureaucracy, federal ministries domiciled within states and state ministries answerable to state governors, operating within the same geographic space but under different fiscal architectures, oversight mechanisms, and reform timelines. The federal civil service completed a nationwide transition to a fully paperless administrative system at the close of 2025, with the Head of the Civil Service of the Federation confirming that all federal ministries and extra-ministerial departments had migrated to digital workflows by December 30, 2025 (Guardian Nigeria, 2026). This was reinforced in 2026 when the presidency announced that thirty-eight ministries and extra-ministerial departments had adopted a secure electronic workflow system as part of a broader digital infrastructure agenda (Office of the Secretary to the Government of the Federation, 2026). State governments, including Rivers State, have not been subject to the same centralized directive, and available evidence suggests that digitalization at the sub-national level has proceeded unevenly, shaped by the fiscal muscle of individual states and the political priority accorded to information technology investment (Ishola et al., 2025).

Rivers State offers a compact and instructive unit of comparison because it hosts both federal ministries, such as those responsible for works, education, and finance-related federal agencies, and a full complement of state ministries operating from the state secretariat in Port Harcourt. The proximity of both tiers within a single administrative capital allows for a controlled comparison of digital maturity that is not confounded by geographic or cultural variation. This study interrogates whether federal ministries operating in Rivers State have attained a discernibly higher level of digital maturity than their state counterparts, and whether such differences, where they exist, translate into measurable differences in administrative performance.

Statement of the Problem

Regardless of Nigeria's stated commitment to digital transformation through instruments such as the National Digital Economy Policy and Strategy and the National Digital Literacy Framework, empirical accounts of ministries at the sub-national level continue to describe an environment of fragmented ICT infrastructure, low digital competence among personnel, and weak enforcement of digitalization directives (National Information Technology Development Agency, 2023; Ishola et al., 2025). The federal tier, by contrast, has recorded a rapid and centrally coordinated shift to paperless administration within a two-year window, moving from an estimated thirty percent digital adoption in August 2024 to full paperless operation by the end of 2025 (Guardian Nigeria, 2026). This asymmetry raises an unresolved empirical question: does the federal tier's accelerated digital transition correspond to a genuine improvement in administrative performance relative to state ministries operating in the same locality, or does it merely represent a change in the medium of administration without a commensurate change in service outcomes? Existing Nigerian scholarship has tended to examine e-government adoption and administrative performance separately, and rarely within a comparative federal-state design situated in a single state capital. This gap constrains the ability of policymakers in Rivers State, and by extension other states with similar federal-state administrative overlap, to draw evidence-based conclusions about where digital investment yields the greatest institutional return. The present study addresses this gap by comparing digital maturity and administrative performance indicators across the two tiers of ministries operating in Rivers State.

Objectives of the Study

The broad objective of this study is to examine the relationship between digital maturity and administrative performance in federal and state ministries operating in Rivers State. The specific objectives are to:

- i. assess the level of digital maturity attained by federal ministries operating in Rivers State relative to state ministries under the Rivers State Government;
- ii. examine the extent to which differences in digital maturity between the two tiers correspond to measurable differences in administrative performance, with particular reference to turnaround time, transparency, and record integrity;
- iii. identify the institutional, fiscal, and human capacity factors that account for observed variation in digital maturity between federal and state ministries; and
- iv. propose a framework through which Rivers State can narrow the digital maturity gap between its ministries and federal counterparts operating within the state.

Research Questions

The study is guided by the following questions:

- i. What level of digital maturity have federal ministries operating in Rivers State attained relative to state ministries?
- ii. To what extent do differences in digital maturity correspond to differences in administrative performance between the two tiers?
- iii. What institutional, fiscal, and human capacity factors explain the observed variation in digital maturity between federal and state ministries in Rivers State?
- iv. What measures can narrow the digital maturity gap between state ministries and federal ministries operating within Rivers State?

Conceptual Clarification

Digital Maturity

Digital maturity refers to the extent to which an organization has embedded digital technology into its structures, workflows, and organizational culture in a manner that produces sustained improvement in output rather than isolated pockets of automation. Novienty et al. (2025) describe digital maturity in public sector organizations along three interacting dimensions, namely technological infrastructure, process re-engineering, and human resource competence, arguing that advancement along one dimension without corresponding movement along the others produces uneven and often unsustainable digital gains. Waara (2025) extends this view by noting that digital government maturity models are frequently criticized for privileging technical readiness over citizen-centred outcomes, a caution that is directly relevant to the present study because a ministry may report high digital infrastructure scores while its clients still experience delay, opacity, or exclusion. For the purposes of this study, digital maturity is treated as a composite construct comprising infrastructure availability, process digitization, workforce digital competence, and institutional governance of digital assets, consistent with the multidimensional treatment advanced in recent digital government maturity scholarship (Zakiuddin et al., 2024; Ishola et al., 2025).

Administrative Performance

Administrative performance, within the tradition of Nigerian public administration scholarship, is generally understood as the capacity of a bureaucratic unit to convert allocated resources into timely, transparent, and accountable service outcomes (Igbokwe-Ibeto, 2012; Ezeani, 2006). Eme and Onwuka (2010) note that Nigerian public bureaucracy has historically been evaluated against criteria such as responsiveness, efficiency, and probity, criteria that remain analytically useful even as the instruments of administration shift from paper files to digital workflows. This study operationalizes administrative performance along three indicators that are consistently reported in the literature as sensitive to digitalization: turnaround time, understood as the interval between the initiation and resolution of an administrative request; transparency, understood as the traceability and auditability of administrative decisions; and record integrity, understood as the completeness, accuracy, and retrievability of official records (Kobelsky et al., 2014; Furqan et al., 2020).

Theoretical Framework

This study is anchored on three complementary theories that together account for the technological, organizational, and normative dimensions of digital adoption in public bureaucracies.

The Technology-Organization-Environment Framework

The Technology-Organization-Environment framework, originally developed by Tornatzky and Fleischer (1990), holds that the adoption and institutionalization of any technology within an organization is shaped by three interacting contexts: the technological context, comprising the availability and perceived usefulness of the technology itself; the organizational context, comprising firm size, managerial structure, and resource slack; and the environmental context, comprising regulatory pressure, competitive dynamics, and the actions of external stakeholders. The framework has been widely applied to e-government adoption studies in developing countries, where it has proved useful in explaining why technically similar digital tools produce divergent outcomes across organizations operating under different resource and regulatory conditions. In this study, the TOE framework is used to explain why federal ministries in Rivers State, operating under a centrally mandated digitalization directive and benefiting from federal-level information technology budget lines, have advanced more rapidly along the digital maturity continuum than state ministries, which lack an equivalent unifying environmental pressure.

Institutional Theory

Institutional theory, particularly the concept of isomorphism advanced by DiMaggio and Powell (1983), explains how organizations facing similar institutional pressures tend to converge in structure and practice through coercive, mimetic, and normative mechanisms. Coercive isomorphism arises from formal mandates, such as the presidential directive requiring federal ministries to transition to paperless operations. Mimetic isomorphism arises when organizations imitate perceived best practice under conditions of uncertainty, which may explain why some state ministries have begun to adopt digital workflow platforms modelled on federal templates even without a binding state-level directive. Normative isomorphism arises from shared professional standards among civil servants trained or exposed to similar administrative doctrines. Kostova and Roth (2002) demonstrate that the adoption of an organizational practice across different institutional settings is mediated by both regulatory pressure and the relational embeddedness of the adopting unit, a proposition that is directly applicable to the differentiated pace of digitalization observed between federal and state ministries in the same state capital.

Public Value Theory

Public value theory, as articulated by Moore (1995), holds that the ultimate justification for public sector action, including investment in digital infrastructure, lies not in operational efficiency alone but in the extent to which such action produces outcomes that citizens and the wider authorizing environment regard as valuable. Bryson, Crosby, and Bloomberg (2014) extend this framework by arguing that public value creation requires the alignment of operational capability, legitimacy, and strategic intent, an alignment that is often incomplete in developing country bureaucracies where digital tools are acquired for symbolic or donor-driven reasons rather than sustained service improvement. Public value theory is applied in this study to evaluate whether the digital transition recorded by federal ministries in Rivers State has translated into outcomes that citizens and administrative clients would recognize as improved service, rather than a purely technical migration from paper to screen.

Empirical Review

International Perspectives on Digital Government Maturity

A growing body of international scholarship has examined how digital maturity models apply to public sector organizations. Zakiuddin et al. (2024), working from an Indonesian public sector case, developed a digital service transformation maturity model that mapped key process areas to capability maturity levels and found that organizations with dedicated digital governance structures advanced further than those relying on ad hoc digitalization. Novienty et al. (2025), using a bibliometric approach anchored on Scopus data, found that public sector organizations in Indonesia had made visible progress in digital infrastructure but lagged considerably in process automation and human capital readiness, a pattern of uneven progression that this study anticipates finding in the Nigerian federal-state comparison as well. Waara (2025) cautions that many digital government maturity models remain technology-centred and inadequately capture whether digitalization improves the experience of the citizens the bureaucracy exists to serve, a concern that directly informs the inclusion of transparency and turnaround time as performance indicators in the present study rather than infrastructure counts alone.

Digital Maturity and Administrative Performance in Nigeria

Within the Nigerian premise, Ishola et al. (2025) conducted a bibliometric analysis of one hundred and twenty-eight Scopus-indexed studies on information and communication technology use in Nigeria's public administration and found that research attention has concentrated on e-governance adoption, implementation challenges, and record management, with comparatively little work examining differentiated outcomes between tiers of government. Obi et al. (2020) examined e-governance and service delivery within the Nigerian civil service and reported that electronic government initiatives, where genuinely implemented, produced a measurable improvement in worker performance and service responsiveness. Abdulkareem and Ramli (2021) found that digital literacy among civil servants was a significant predictor of e-government performance, a finding with direct bearing on the present comparison given that federal ministries have benefited from more sustained digital literacy investment through programmes coordinated by the National Information Technology Development Agency (2023) and reinforced by international partners such as UNESCO (2025), which trained civil servants across federal ministries on artificial intelligence and digital government competencies in 2025. The Bureau of Public Service Reforms (2025) similarly reported plans to train five hundred thousand federal public servants across the four major digital competency areas, an investment scale that has no confirmed state-level equivalent in Rivers State. Comparative public administration scholarship in Nigeria provides useful context for understanding why such asymmetries persist. Raphael and Tambou (2023) compared the Nigerian and American federal systems and found that the Nigerian federating units continue to experience structural ambiguity in resource allocation that constrains their capacity to independently fund large-scale reform. Ikpebe et al. (2025) similarly observe that Nigerian public administration research and practice reveal persistent capacity disparities between federal institutions, which benefit from national revenue allocation and donor attention, and state institutions, which must contend with narrower internally generated revenue bases. Chukwudi (2015), examining local government administration in Osun State, found that inadequate manpower development and capacity building constrained the digital and administrative competence of sub-national civil servants, a finding consistent with the pattern this study expects to observe in Rivers State's state ministries.

Records Management and Institutional Follow-Through

Record management scholarship offers a further point of comparison because the integrity of administrative records is treated in this study as a proxy indicator of administrative performance. Furqan et al. (2020) found that the timely resolution of audit findings and recommendations was significantly associated with improvements in financial reporting and public service quality in Indonesia, suggesting that institutional follow-through, not merely the existence of digital systems, drives performance gains. Kobelsky et al. (2014) similarly found that information technology investment improved performance in the not-for-profit sector only where it was accompanied by

adequate governance and monitoring structures, reinforcing the argument that digital infrastructure alone is an incomplete predictor of administrative performance without corresponding institutional discipline.

Comparative Analysis of Digital Maturity in Federal and State Ministries in Rivers State **Digital Maturity in Federal Ministries**

Available evidence indicates that federal ministries operating in Rivers State have been drawn into a centrally coordinated digital transition that began with an estimated thirty percent digital adoption rate across the federal civil service in August 2024 and culminated in full paperless operation across all federal ministries and extra-ministerial departments by December 30, 2025 (Guardian Nigeria, 2026). This transition was reinforced in 2026 through the announcement that thirty-eight ministries and extra-ministerial departments had adopted a secure electronic workflow system under the Renewed Hope Agenda, alongside a broader digital infrastructure programme intended to attract investment in the national digital ecosystem (Office of the Secretary to the Government of the Federation, 2026). The pace and coordination of this transition reflect the coercive isomorphism described by DiMaggio and Powell (1983), in which a binding presidential directive compelled uniform movement across federal ministries irrespective of their individual size or prior digital readiness. The Technology-Organization-Environment framework helps explain why this uniformity was achievable at the federal level: the environmental context, comprising the presidential directive, dedicated training of five hundred trainers to cascade digital competence across ministries, and international technical support, created a level of institutional pressure that individual ministries could not easily resist or delay (Guardian Nigeria, 2026; UNESCO, 2025).

Digital Maturity in State Ministries

State ministries in Rivers State do not appear to operate under an equivalent unifying directive. The Rivers State Ministry of Information and Communications, established to coordinate media and information dissemination for the state, and the Rivers State ICT Department, situated within the Ministry of Urban Development's administrative wing, indicate the presence of institutional structures capable of driving digitalization, but available evidence does not point to a state-wide paperless mandate comparable to the federal directive. This is consistent with the broader pattern identified by Ishola et al. (2025), who found that Nigerian digital governance scholarship and practice remain concentrated at the federal level, with state-level digitalization proceeding through isolated departmental initiatives rather than a coordinated state-wide programme. Under institutional theory, this suggests that any digitalization occurring within Rivers State ministries is more likely to reflect mimetic isomorphism, that is, individual ministries observing and imitating federal practice under conditions of uncertainty about state policy direction, than coercive isomorphism driven by binding state directives (DiMaggio & Powell, 1983).

Comparative Administrative Performance

When digital maturity differences are examined against the three administrative performance indicators adopted in this study, a nuanced picture emerges. On turnaround time, the federal paperless transition plausibly reduces the physical bottlenecks associated with file movement between departments, consistent with findings by Obi et al. (2020) that genuine electronic government implementation improves worker performance and responsiveness. However, public value theory cautions against equating a reduction in internal processing time with an improvement in value as experienced by the citizen or administrative client, particularly where front-end service points have not been redesigned around citizen needs (Moore, 1995; Bryson et al., 2014). On transparency, the presence of a documented, centrally monitored digital workflow in federal ministries creates a more auditable trail than the parallel manual and semi-digitized processes that appear to persist in several state ministries, a distinction that aligns with Furqan et al.'s (2020) finding that institutional follow-through on audit and compliance matters is a stronger predictor of

service quality improvement than digitalization alone. On record integrity, the risk profile differs across the two tiers: federal ministries face the technical risk of data migration errors and cybersecurity exposure inherent in large-scale digital transitions, while state ministries face the more familiar risk of physical file deterioration, loss, and unauthorized alteration associated with paper-dominant record systems (Kobelsky et al., 2014).

Simply put, the evidence suggests that digital maturity and administrative performance are positively associated between the two tiers, but the association is mediated by institutional enforcement capacity rather than by ministry size or statutory importance alone. A state ministry with a proactive leadership team and a functioning ICT department may outperform a less digitally disciplined federal ministry on transparency and record integrity, even where its overall infrastructure investment is smaller. This finding is consistent with Kostova and Roth's (2002) argument that the adoption and internalization of an organizational practice depends on the relational and normative embeddedness of the adopting unit and not merely on the presence of an external mandate.

Explanatory Factors for the Observed Variation

Several institutional, fiscal, and human capacity factors account for the observed variation. First, federal ministries benefit from centrally coordinated funding lines dedicated to digital infrastructure and training, reinforced by international technical partnerships, which state ministries in Rivers State have not been shown to access at a comparable scale (UNESCO, 2025; Bureau of Public Service Reforms, 2025). Second, the digital literacy gap identified by Abdulkareem and Ramli (2021) and by the National Information Technology Development Agency (2023) appears more acute among state civil servants who have had less exposure to structured digital competency programmes than their federal counterparts. Third, the absence of a binding state-wide digitalization directive in Rivers State, in contrast to the presidential directive governing federal ministries, weakens the coercive institutional pressure that would otherwise compel uniform adoption across state ministries (DiMaggio & Powell, 1983). Fourth, capacity-building deficits of the kind documented by Chukwudi (2015) in Osun State's local government system appear to recur at the state ministerial level in Rivers State, constraining the pace at which digital tools, once acquired, are embedded into routine administrative culture.

Methodology

This study adopts a qualitative comparative and doctrinal research design, drawing on documentary evidence, government policy instruments, agency communications, and empirical literature published largely between 2020 and 2026. The doctrinal approach is appropriate for a comparative institutional study of this nature because the phenomenon under review, namely the differentiated pace of digital transition between federal and state ministries, is substantially documented through official policy announcements, agency reports, and prior empirical scholarship rather than requiring primary field instrumentation to establish its existence. Data were drawn from federal government communications on the paperless transition, Rivers State ministerial records, and peer-reviewed literature on digital government maturity, e-governance in Nigeria, and comparative public administration. The comparative method proceeds by juxtaposing the documented digital maturity trajectory of federal ministries against that of state ministries operating in Rivers State along the three performance indicators of turnaround time, transparency, and record integrity, interpreted through the combined lens of the Technology-Organization-Environment framework, institutional theory, and public value theory. This design is consistent with prior doctrinal and conceptual studies in Nigerian public administration scholarship that rely on secondary documentary sources to construct theoretically grounded comparative analysis (Raphael & Tambou, 2023; Ikpebe et al., 2025).

Discussion of Findings

The comparative evidence reviewed in this study indicates that federal ministries operating in Rivers State have attained a materially higher level of digital maturity than state ministries, driven

principally by a binding national directive, dedicated funding, and structured digital literacy investment. This finding aligns with the Technology-Organization-Environment framework's proposition that environmental pressure is a powerful driver of technology adoption where organizational resources are available to respond to it (Tornatzky & Fleischer, 1990). It also affirms the coercive isomorphism thesis advanced by DiMaggio and Powell (1983), since the uniform and rapid federal transition would be difficult to explain through voluntary organizational choice alone. At the same time, the discussion cautions against a simple equation of digital maturity with administrative performance. Consistent with Waara's (2025) critique of technology-centred maturity models, this study finds that transparency and record integrity, both central to how citizens and oversight bodies experience administrative performance, are shaped as much by institutional enforcement discipline as by the presence of digital tools. This is consistent with Furqan et al.'s (2020) finding that the resolution of audit findings, rather than technology adoption alone, drives improvement in service quality, and with Kostova and Roth's (2002) argument that practice adoption is mediated by the adopting unit's internal relational structure. The implication for Rivers State is that closing the digital maturity gap between its ministries and federal counterparts will require more than the acquisition of hardware and software; it will require a parallel investment in institutional monitoring, staff competence, and leadership commitment capable of embedding digital tools into sustained administrative culture, a conclusion consistent with public value theory's insistence that technological investment must be judged by the value it delivers to citizens rather than by its technical sophistication alone (Moore, 1995; Bryson et al., 2014).

Implications for Policy and Practice

The findings carry several implications for policymakers in Rivers State and comparable Nigerian states. First, the Rivers State Government would benefit from issuing a state-wide digitalization directive comparable in scope and enforcement mechanism to the federal paperless mandate, thereby converting the currently mimetic and uneven adoption pattern among state ministries into a coercively coordinated one. Second, a ring-fenced information technology budget line, administered independently of general ministerial overheads, would reduce the fiscal vulnerability of digitalization projects to competing recurrent expenditure pressures. Third, a structured digital literacy programme modelled on the National Digital Literacy Framework (National Information Technology Development Agency, 2023) but tailored to the specific competency gaps of state civil servants would address the digital literacy deficit identified by Abdulkareem and Ramli (2021) as a significant predictor of e-government performance. Fourth, an intergovernmental digital governance framework linking Rivers State's ICT Department with federal digital transformation agencies would allow the state to benefit from federal technical expertise and shared infrastructure standards without duplicating the full cost of independent system development. Finally, given the finding that transparency and record integrity depend on institutional follow-through rather than technology alone, the state should establish a dedicated digital compliance and audit unit charged with monitoring the actual use, rather than the mere installation, of digital systems across state ministries.

Conclusion and Suggestions

This study set out to examine the relationship between digital maturity and administrative performance in federal and state ministries operating in Rivers State. The comparative evidence indicates that federal ministries, propelled by a binding national directive, dedicated funding, and structured training, have advanced further along the digital maturity continuum than state ministries, whose digitalization has proceeded unevenly through isolated departmental initiatives rather than a coordinated state-wide programme. However, the study finds that digital maturity alone does not fully account for differences in administrative performance, since transparency and record integrity depend substantially on institutional enforcement discipline and staff competence rather than on the presence of digital infrastructure alone. The Technology-Organization-

Environment framework, institutional theory, and public value theory together provide a coherent explanation for both the pace of federal digitalization and the conditions under which such digitalization does or does not translate into genuine improvement in public value.

On the basis of these findings, the study suggests that the Rivers State Government issue a binding state-wide digitalization directive with clear implementation timelines; establish a ring-fenced information technology budget for ministerial digitalization; develop a structured digital literacy programme for state civil servants; formalize an intergovernmental digital governance partnership with federal digital transformation institutions operating within the state; and establish a digital compliance and audit unit to monitor the sustained use of digital systems across state ministries. Future research should complement the doctrinal and comparative approach adopted here with primary survey or interview-based data collected directly from federal and state ministry personnel in Rivers State, which would allow for a more granular measurement of turnaround time, transparency, and record integrity than is currently available through documentary sources alone.

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