

E-GOVERNANCE AND DEMOCRATIC ACCOUNTABILITY: ASSESSING THE INFORMATION MANAGEMENT CAPACITY OF THE PUBLIC SECTOR IN RIVERS STATE

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ABSTRACT

This study examines the relationship among e-governance adoption, information management capacity, and democratic accountability in the public sector of Rivers State, Nigeria, with particular attention to persistent bureaucratic delays and forms of state injustice arising from limited access to public legal and administrative information. Using a cross-sectional survey design, data were collected from 210 administrative officers across ten ministries in Port Harcourt, and analyzed using Pearson Product–Moment Correlation and regression-based mediation techniques. The findings reveal that e-governance adoption is significantly associated with transparency ($r = 0.613$, $p < 0.01$) and responsiveness ($r = 0.541$, $p < 0.01$). Further results indicate that Information Management Systems significantly mediate the relationship between e-governance and democratic accountability, accounting for 52% of the variance in accountability outcomes. The study demonstrates that technological infrastructure alone does not produce accountability gains unless supported by effective information management arrangements and an institutional information culture that promotes accessibility, integrity, and timely use of public data while limiting the accumulation of dark data. Accordingly, the study recommends the institutionalization of digital access to public records, the integration of information management standards into e-governance frameworks, and sustained enhancement of workforce digital literacy to strengthen transparency and responsiveness in the public sector of Rivers State.

Keywords: e-governance, information management capacity, democratic accountability, rivers state, transparency, responsiveness

INTRODUCTION

The global landscape of public administration is undergoing a fundamental metamorphosis marked by a decisive shift from traditional, paper-intensive bureaucratic arrangements to integrated digital ecosystems. This transformation, commonly framed within the paradigm of e-governance, extends beyond the simple digitization of existing administrative routines. It reflects a strategic reorientation in how governments create public value, organize information flows, and engage with citizens in a digitally mediated environment (Chowdhury, 2024). Within this context, digital government has been elevated by the United Nations as a core instrument for attaining the Sustainable Development Goals, with emphasis placed on the capacity of public institutions to deploy information and communication technologies in ways that promote inclusiveness, resilience, and institutional effectiveness (United Nations, 2024). Across advanced governance systems, e-governance frameworks are increasingly integrating sophisticated technologies such as artificial intelligence and cloud computing to support real-time decision-making, strengthen data integrity, and generate tamper-resistant administrative records (Asimakopoulos et al., 2025). The effectiveness of these innovations, however, remains strongly conditioned by contextual variables, including institutional

maturity, the robustness of information management infrastructures, and the presence of an administrative culture that supports data-driven governance (Eom & Lee, 2022).

Within Nigeria, the push toward e-governance has been shaped by an urgent need to confront persistent inefficiencies, fiscal leakages, and entrenched corruption in the public sector. At the federal level, initiatives such as the Treasury Single Account and the Integrated Payroll and Personnel Information System have reconfigured public financial management by consolidating government revenues and personnel data into centralized digital platforms (Adegbola & Oyewole, 2023). These reforms have enhanced fiscal transparency by establishing verifiable audit trails and improving access to accurate expenditure information for oversight bodies (Akinwale, 2023). Implementation outcomes, however, vary significantly across subnational governments, where disparities in infrastructural capacity, institutional readiness, and workforce digital competence continue to constrain the full realization of e-governance benefits (Adeyemi & Okafor, 2024). These challenges are occurring within a broader macroeconomic environment characterized by mounting public debt and inflationary pressures, conditions that further underscore the necessity of efficient, technology-enabled public administration for sustainable development (BudgIT, 2024).

Rivers State occupies a strategic position in this discourse as a major economic hub, oil and gas production and related activities within the Niger Delta and an important site for examining the interaction between digital governance initiatives and administrative capacity. In recent years, the state public sector has experienced a gradual introduction of digital tools aimed at improving service delivery, including electronic result processing in educational institutions and digitalized tax administration in commercially active local government areas such as Obio/Akpor (Zeb-Obipi, 2025; Cinfores, 2025). Evidence from local studies, however, indicates that adoption patterns remain uneven, with many ministries and departments continuing to depend on orthodox manual procedures that render records vulnerable to deterioration, loss, and unauthorized alteration (Nwinyokpugi & Bestman, 2020). In this setting, the effectiveness of e-governance initiatives is closely linked to information management capacity, understood as the institutional ability to systematically organize, secure, and utilize information while cultivating an administrative culture that recognizes information as a strategic governance resource rather than a by-product of routine operations (Obara & Adiele, 2025).

The overarching normative objective of digital governance reforms is the strengthening of democratic accountability, particularly by enhancing transparency and responsiveness within public institutions. These dimensions remain central indicators for assessing accountability performance in the public sector (Sharma et al., 2024). In Rivers State, advancing accountability requires a deliberate transition toward evidence-based governance, where policy choices and administrative actions are informed by credible, accessible, and timely data rather than conjecture or discretionary practices (Kariuki, 2023). In many instances, limited access to public legal information persists as a structural challenge that renders the law effectively unknowable to citizens and functions as a potent instrument of state injustice. Addressing this condition demands more than the deployment of digital platforms. It requires confronting entrenched practices of elite recklessness and public fund mismanagement by embedding digital systems that generate transparent, verifiable, and publicly accessible audit trails capable of constraining abuse and reinforcing answerability across all levels of government (Kalagbor & Harry, 2023). Against this backdrop, this paper examines e-governance and democratic accountability in Nigeria's public sector by accessing the information management capacity effect in Rivers State.

Statement of the Problem

The efficiency of administrative operations and the quality of democratic accountability in the Rivers State public sector are increasingly undermined by a persistent disconnect between the adoption of digital technologies and the internal capacity to manage information effectively. Although several e-governance platforms have been introduced across ministries and agencies, their impact remains limited due to a weak culture of information utilization and inadequate adherence to information

ethics within public institutions (Obara & Adiele, 2025). As a result, many ministries continue to rely on fragmented information systems and manual, paper-based workflows, conditions that generate recurrent bureaucratic delays, procedural inconsistencies, and uneven administrative outcomes (Alikornwo, Adiele & Dornanu, 2025). These conventional practices, which neglect doorstep-oriented service delivery, have been shown to produce a public sector that lacks the capacity to systematically measure service efficiency and performance (Nwinyokpugi & Bestman, 2020).

In addition to these operational challenges, there exists a notable empirical gap in understanding how internal information management capacity, encompassing strategic information culture and data integration practices, shapes external dimensions of accountability at the subnational level. Across many administrative units, large volumes of information are generated in the course of routine activities but remain uncaptured, undocumented, or poorly organized, resulting in the accumulation of dark data and the erosion of evidence-based decision-making (Adiele & Gbekee-Kalagbor, 2025). The absence of structured communication and information governance frameworks further constrains the ability of state institutions to adapt to changing administrative demands and remain resilient in the face of systemic pressures (Adiele, 2025). In response to these conditions, the present study seeks to address this gap by empirically examining the causal relationship between e-governance-driven digital transformation and specific measures of democratic accountability within the Rivers State public sector.

Aim and Objectives

The aim of the study is to examine e-governance and democratic accountability in Nigeria's public sector, assessing the information management capacity effect in Rivers State.

The specific objectives of the study includes to:

1. Examine the relationship between e-governance and transparency in the public sector of Rivers State.
2. Ascertain the relationship between e-governance and responsiveness in the public sector of Rivers State.
3. Evaluate whether information management capacity mediates the relationship between e-governance and democratic accountability in the public sector of Rivers State.

Research Hypotheses

Research findings in several studies suggest that e-governance adoption is likely to improve transparency and responsiveness, but the effect may be strongly influenced by the presence of institutional capacity, including information management systems and strategic information culture. Based on these insights, the following hypotheses are formulated to guide the current study:

H₀₁: E-governance adoption has no significant relationship with transparency in the public sector of Rivers State.

H₀₂: E-governance adoption has no significant relationship with responsiveness in the public sector of Rivers State.

H₀₃: Information Management Capacity (IMC) does not significantly mediate the relationship between e-governance and democratic accountability outcomes in the public sector of Rivers State.

LITERATURE REVIEW

The conceptual review of this paper will dwell on e-governance, democratic accountability and information management capacity.

E-Governance

Governance constitutes a fundamental and multilevel concept in political science. It also applies to public administration and other disciplines. Governance mirrors and facilitates in understanding the complex relationships among public institutions, organizations and agencies as well as how power and authority are exercised in the society, including decision making and policy implementation. Essentially, governance is applicable to both public and private sectors.

Thus, there are various dimensions of governance namely: good governance, political or democratic governance, economic governance, and administrative governance. Others are corporate governance, legal governance, project governance, collaborative governance, network governance and e-governance. At a macro level, there are six principles of governance such as participation, inclusion, non-discrimination, equality, rule of law and accountability (Kalagbor & Sam-Kalagbor, 2025).

E-governance as a variance of governance refers to the systematic application of information and communication technologies within the public sector with the objective of improving administrative efficiency, service delivery, and the overall quality of governance. It represents a clear departure from rigid, hierarchical, and unidirectional administrative models toward more participatory, open, and interactive systems of public administration. Within this framework, citizens are no longer positioned as passive recipients of government information but as active participants engaged in continuous interaction and feedback with public institutions (Shukla, 2025). Conceptually, e-governance encompasses the digital encoding, processing, storage, retrieval, and dissemination of governance-related data that supports representation of societal interests, coordination of public actions, and efficient delivery of services (Chowdhury, 2024c; Shibambu, 2024). This reconfiguration of administrative processes emphasizes transparency, accessibility, and inclusiveness as defining features of modern public sector management.

In the Rivers State public sector, e-governance is operationalized through multiple functional dimensions that collectively shape administrative performance. These include electronic participation mechanisms that facilitate citizen engagement, electronic records management systems that enhance documentation and retrieval, electronic communication platforms that improve inter-agency coordination, and electronic procurement systems that promote openness and efficiency in public spending (Nwinyokpugi & Bestman, 2020). When effectively deployed, these dimensions reduce information asymmetries, strengthen internal coordination, and create traceable administrative processes that support accountability. Their relevance is particularly pronounced in environments where traditional manual systems have historically constrained service delivery and exposed public records to manipulation or loss.

At the global level, digital governance has become a central pillar of public administration reform, driven by the need to improve accessibility, responsiveness, and service quality in increasingly complex governance environments. Through the automation of bureaucratic procedures and the digitization of administrative records, governments are able to shorten processing timelines, reduce human error, and lower operational costs while maintaining consistent service standards (Udoh, 2024; Alazigha & Amanawa, 2024). These gains, however, are not automatic. Effective e-governance requires a fundamental shift from organization-centric administrative logic toward citizen-centric service models that prioritize user needs and institutional continuity over dependence on specific individuals for critical functions (Enaifoghe & Ndebele, 2023).

Within Rivers State, this transformation is reflected in the gradual adoption of digital platforms designed to support real-time monitoring of governmental activities and facilitate evidence-based policymaking. Such platforms enhance managerial oversight, enable timely access to administrative data, and provide decision-makers with reliable information to guide policy formulation and implementation (Akinwale, 2023; Sharma et al., 2024). The extent to which these systems translate into measurable governance outcomes, however, remains closely linked to the capacity of public institutions to manage information strategically, integrate digital tools into routine operations, and sustain an administrative culture that values transparency and data-driven decision-making.

Democratic Accountability

Democratic accountability is a cornerstone of democratic governance and effective public administration. It ensures that government authority is exercised responsibly, public resources are efficiently managed, and decision-making processes remain inclusive and transparent. In the civil service context, accountability is operationalized through hierarchical structures that link

subordinates to superordinates, such that individuals entrusted with public responsibilities are answerable not only to their immediate supervisors but also to institutional rules, legal frameworks, and the broader citizenry (Igbokwe et al., 2024; Amadi, Osai, Kalagbor & Okene, 2023; Kalagbor, 2014). This system of answerability creates a mechanism for monitoring, evaluating, and correcting administrative conduct, thereby serving as a critical control against corruption, maladministration, and the diversion of public funds to private interests (Ejere, 2012; Igbokwe et al., 2024). By embedding responsibility within organizational hierarchies and ensuring that actions are traceable, democratic accountability aligns administrative behaviors with public expectations and legal mandates, reinforcing both operational efficiency and ethical governance.

Beyond internal bureaucratic oversight, democratic accountability functions as a bridge between the government and its citizens, enabling the public to evaluate how policies are developed, implemented, and justified. In democratic societies, accountability ensures that governance is not merely top-down but interactive, allowing citizens to assess whether public institutions deliver value for money and meet collective needs (Wang et al., 2025; Kariuki et al., 2025). Transparency mechanisms, including the publication of policy decisions, public reporting of expenditures, and citizen feedback channels, empower society to monitor government performance and influence outcomes. This outward-facing dimension of accountability is essential for fostering legitimacy, trust, and civic engagement, as citizens are better positioned to hold state actors responsible when information on governance processes is accessible, reliable, and comprehensible. It establishes a continuous dialogue between government and governed, in which public institutions are obligated to respond to societal expectations while being constrained by the principles of law, ethics, and procedural fairness.

The integration of information and communication technology into public administration has further strengthened democratic accountability by enabling real-time monitoring, tamper-proof recordkeeping, and transparent reporting systems. Digital tools such as e-budgeting platforms, open data portals, and electronic reporting mechanisms not only enhance traceability but also reduce discretionary opportunities for corrupt practices (Rhamadhani & Edeh, 2024; Castro & Lopes, 2022). These ICT-based systems support evidence-based policymaking by making information on government actions, resource allocations, and performance outcomes readily available to oversight institutions and the public. However, accountability remains fundamentally dependent on the continuous availability of accurate and structured information. Without effective documentation, recordkeeping, and information management practices, even the most advanced technological systems cannot guarantee answerability or prevent misuse of public resources (Glassco, 1962; Wang et al., 2025). This underscores the critical intersection between democratic accountability and institutional information management capacity: the ability of public organizations to collect, store, and utilize data strategically directly determines the effectiveness of mechanisms designed to hold government actors responsible for their decisions and actions.

Transparency

Transparency constitutes a fundamental pillar of good governance, reflecting the extent to which government activities are conducted openly and made accessible to the public. It is widely recognized as the “life blood of good governance,” promoting public trust, legitimacy, and confidence in democratic institutions (Igbokwe et al., 2024; Sharma & Gopal, 2024). By ensuring that administrative procedures, decisions, and resource allocations are visible and comprehensible, transparency empowers citizens to hold public officials accountable and fosters a culture of ethical governance. In practical terms, digital governance initiatives—such as the Nigeria Open Data Portal—have enhanced transparency by providing real-time access to fiscal and administrative information, thereby reducing opportunities for mismanagement and ensuring that public funds are allocated according to established priorities (Okafor & Olawale, 2023). Through such mechanisms, transparency not only deters corruption but also strengthens the credibility of policy implementation by enabling continuous public oversight.

Beyond fiscal accountability, transparency embodies the principle of a “public right to know,” which entails granting citizens the tools and capacity to evaluate government actions critically. It extends beyond mere access to information to include the ability to interpret, monitor, and assess administrative performance (Wang et al., 2025). In Rivers State, the implementation of electronic record management systems has played a crucial role in operationalizing transparency by improving the accuracy, integrity, and retrievability of public records (Adiele & Bestman, 2025; Nwinyokpugi & Bestman, 2020). These systems facilitate rapid dissemination of information across administrative units and provide the public with timely insight into government processes, allowing citizens to track policy implementation, monitor expenditures, and evaluate service delivery outcomes.

The absence of transparency, conversely, creates conditions under which corruption and maladministration can thrive, as public officials are neither observed nor held accountable for their actions or omissions. When administrative processes remain opaque, misallocation of resources, abuse of office, and arbitrary decision-making often go unchecked, undermining citizen confidence and eroding democratic legitimacy (Ejere, 2012; Udoh, 2024). Therefore, transparency is not only a mechanism for monitoring government performance but also a strategic tool for institutional reform, requiring both technological infrastructure—such as digital recordkeeping and open data platforms—and an organizational culture committed to openness, information sharing, and accountability in governance.

Responsiveness

Responsiveness refers to the capacity of public institutions to effectively deliver policy outcomes, address citizen needs, and maintain operational agility in a dynamic governance environment. It represents one of the most immediate and tangible benefits of digital governance, as the automation of administrative procedures, coupled with the digitization of records, accelerates processing times, reduces bureaucratic delays, and minimizes the risk of procedural bottlenecks (Adegbola & Oyewole, 2023; Igwe, 2025). Within Rivers State ministries, responsiveness is operationalized as the ability of administrative units to engage proactively with stakeholders, align service delivery with national quality standards, and adapt rapidly to evolving policy and societal demands (Alikornwo & Nwinyokpugi, 2025). A responsive public sector not only reacts efficiently to current needs but also anticipates emerging challenges, enabling forward-looking decision-making that integrates risk assessment, resource planning, and strategic prioritization (Morisi, 2006; Morisi, 2025).

The quality and speed of administrative decision-making are central to responsiveness. Traditional manual, paper-based systems often hinder timely service delivery, generating delays, inconsistencies, and citizen dissatisfaction (Alikornwo & Nwinyokpugi, 2025). Even in contexts where digital technologies have been introduced, a failure to embed responsive processes, align workflows, and foster decision-making competence within the workforce prevents these technologies from translating into tangible service improvements (Guo et al., 2025). Responsiveness therefore requires a combination of technical infrastructure, procedural redesign, and cultural adaptation within public institutions, ensuring that the benefits of digital platforms are fully leveraged to meet citizen expectations and operational goals.

In Rivers State, empirical evidence highlights that responsiveness is strongly influenced by strategic talent management, continuous workforce development, and the cultivation of specialized competencies. Public institutions that invest in training, knowledge management, and professional skill enhancement are better positioned to maintain workforce stability and achieve high-quality service delivery in complex administrative and sector-specific contexts (Ekweozor & Obara, 2022; Ekweozor & Omah, 2025). By integrating these human resource strategies with digital governance tools, ministries can not only respond more effectively to immediate policy demands but also sustain institutional adaptability, resilience, and long-term organizational performance. In this way, responsiveness emerges as both a structural and behavioral attribute of an effective public sector, dependent on the interplay between technology, information management, and human capacity.

Information Management Capacity (IMC)

Information Management Capacity (IMC) represents the strategic, organizational, and technical competence of institutions to treat information as a vital resource for governance, decision-making, and accountability. It involves the systematic collection, organization, storage, retrieval, and dissemination of data to facilitate knowledge exchange and support evidence-based decision-making across administrative levels (Davenport & Prusak, 1998; O'Brien, 1999). In the Nigerian public sector, IMC is particularly critical for monitoring the implementation of policies and programs, ensuring that original objectives are achieved, and providing decision-makers with a comprehensive understanding of complex administrative situations (Du Toit et al., 1998; Kariuki, 2023). High-quality information—accurate, timely, complete, and relevant—serves as a guiding framework within which public officials navigate the often intricate and overlapping responsibilities of governance, effectively acting as a “map in a dense forest” of administrative complexities (Ram, 2023). Without such capacity, institutions risk inefficiency, poor coordination, and the misalignment of public actions with strategic goals.

A central dimension of IMC is the cultivation of a strategic information culture, reflecting an organizational commitment to treating information as a strategic asset for accountability, policy coherence, and institutional learning (Obara & Adiele, 2025). Ministries and agencies that develop such a culture foster proactive information sharing, rigorous documentation practices, and data-driven mindsets that enhance both the speed and accuracy of administrative processes (Obara & Adiele, 2025). Strategic information culture also ensures that knowledge flows are institutionalized rather than being person-dependent, thereby reducing bottlenecks and improving resilience against disruptions in service delivery. Importantly, this aspect of IMC is not solely technical; it is deeply cultural, requiring human expertise to translate digital infrastructure, systems, and tools into functional processes that sustain institutional memory and enable evidence-based management (Al-Shbail & Aman, 2018; Karkin & Cezar, 2024).

The absence of robust IMC exposes public organizations to the risks of fragmented, underutilized, or isolated data, often referred to as dark data, which limits both operational efficiency and accountability (Adiele & Gbekee-Kalagbor, 2025). Such disconnected information diminishes the ability of administrative units to make informed decisions, slows down service delivery, and undermines transparency, as critical knowledge remains unrecorded or inaccessible when needed. Effective IMC, by contrast, integrates technical systems, human capacities, and organizational culture to ensure that information is not only collected and stored but actively used as a strategic resource for governance, monitoring, and policy innovation. This positions IMC as a linchpin in linking technological adoption, e-governance functionality, and the realization of democratic accountability within the public sector.

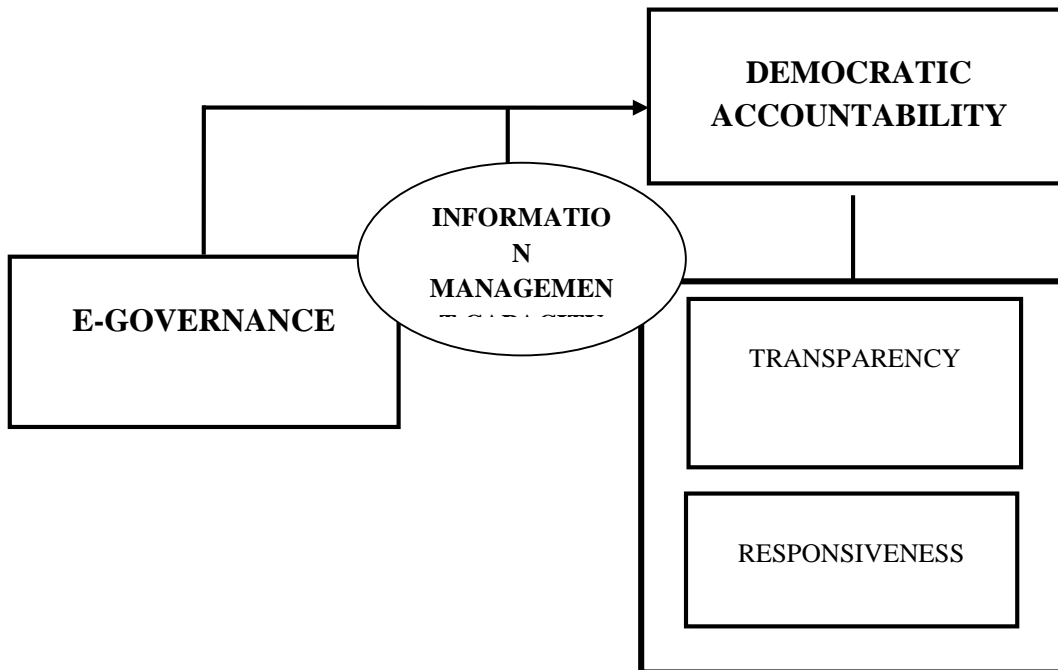


Figure 1: Conceptual framework of E-Governance and Democratic Accountability in the public sector of Rivers State, Nigeria.

Theoretical Framework

This study is grounded in dual theoretical frameworks, Digital Era Governance (DEG) Theory and Good Governance Theory. The combination is premised on the contention that digital technologies alone cannot guarantee improved governance outcomes except they are aligned with normative governance principles such as transparency, accountability, responsiveness and participation.

Digital Era Governance (DEG) Theory

Digital Era Governance (DEG) Theory is a prominent public administration theory that explains the transformation of government structures and processes through digital technologies. It was formally articulated by Patrick Dunleavy, Helen Margetts, Simon Bastow, and Jane Tinkler in response to the limitations of the New Public Management paradigm. Specifically, it addresses how digital technologies can reshape organizational structures, public services, and citizen-state interactions (Dunleavy et al., 2006). DEG emphasizes that digital technologies do not merely automate existing bureaucratic processes; rather, they enable a fundamental reconfiguration of the state's architecture to support integrated, citizen-oriented, transparent, and accountable governance systems. The theory is particularly relevant in contemporary public administration, where governments face increasing pressures to improve service delivery, enhance transparency, and strengthen democratic accountability in complex and information-rich environments. By providing a lens to analyze these transformations, DEG situates technological adoption within broader organizational and institutional reforms, emphasizing the strategic use of information as a resource for governance.

At the core of DEG are three interlinked elements: reintegration, needs-based holism, and digitization. Reintegration involves the consolidation of government functions that were previously fragmented under New Public Management, aligning administrative processes around coherent problem domains rather than isolated departmental silos. Needs-based holism emphasizes a citizen-centered approach, where governance is organized around the needs and expectations of stakeholders rather than internal bureaucratic structures and convenience. Digitization focuses on

the adoption and full utilization of information and communication technologies to drive governance processes – transform public services, improve record-keeping, and enable interactive communication with citizens (Dunleavy et al., 2006). These elements collectively explain why DEG provides a conceptual basis for linking e-governance initiatives to outcomes such as transparency, responsiveness, and public value creation, particularly when supported by strong internal information management practices and institutional capacities.

In the context of this study, DEG provides a robust theoretical lens to explore the interplay between e-governance, information management capacity, and democratic accountability in Rivers State, demonstrating that technology adoption alone is insufficient without the strategic management and integration of information within public institutions.

Good Governance Theory

Good governance theory and Digital Era Governance (DEG) theory are not only related, but often complement each other in political science and public administration scholarship, research and practice. Good governance theory focuses on the normative standards and expectations that promote transparency, responsiveness, participation and democratic accountability, rule of law and inclusivity, etc. The theory assumes that Public Institutions can derive legitimacy based on their ability to operate in transparent manner and remain accountable to the people or citizens. Both the World Bank and United Nations Development Programme (UNDP) are key institutional promoters of good governance globally.

Good governance theory is relevant to this study in several ways. It provides the normative benchmark or criteria for examining democratic accountability, being a core principle of good governance, whether government actions are transparent, answerable and subject to public scrutiny. It also helps to assess whether information management capacity contributes to improved accountability outcomes in Rivers State Public Service.

Empirical Review

Globally, empirical research consistently demonstrates a positive relationship between digital maturity and accountability in the public sector. Wang et al. (2025) found that countries with higher e-government development index (EDGI) scores experienced significant improvements in transparency, with the effect particularly pronounced during the COVID-19 pandemic. This study indicates that digital governance can enhance public oversight and access to information, a premise directly relevant to examining transparency outcomes in Rivers State.

In India, Sharma et al. (2024) observed that the development of digital accountability is meaningful only when systems are responsive and allow users control over services. Their findings imply that technology adoption alone is insufficient; organizational responsiveness and citizen engagement are necessary for translating digital tools into accountable governance. For the current study, this suggests that e-governance initiatives in Rivers State must be accompanied by mechanisms that ensure real-time responsiveness to stakeholder needs.

Research in European Union countries by Sharamanzi (2024) and Albitar et al. (2024) indicates that e-governance reforms increased administrative efficiency by up to 35 percent and reduced bureaucratic delays by approximately 40 percent. These results highlight the operational benefits of digital systems, implying that streamlined e-government processes can improve decision speed and service delivery quality in Rivers State public institutions, reinforcing both transparency and responsiveness.

In Nigeria, digital initiatives such as the Treasury Single Account (TSA) and Integrated Payroll and Personnel Information System (IPPIS) have reduced the prevalence of ghost workers and enhanced budget monitoring (Adegbola & Oyewole, 2023; Okafor & Olawale, 2023). These national-level interventions demonstrate how technology can strengthen internal controls and accountability, providing a contextual basis for exploring similar dynamics at the sub-national level in Rivers State.

Local studies in Rivers State provide further evidence of the impact of digital governance and information management. Nwinyokpugi and Bestman (2020) found that e-governance applications facilitate efficient document storage and faster information dissemination, reducing administrative delays. Alikornwo and Nwinyokpugi (2025) demonstrated that Information Management Systems (IMS) significantly mediate the effect of communication on decision speed and quality, highlighting the critical role of institutional capacity in translating e-governance adoption into improved administrative outcomes.

Obara and Adiele (2025) established a positive relationship between strategic information culture and decision accuracy. This finding implies that fostering a culture where information is treated as a strategic asset strengthens institutional capacity to leverage technology effectively, reinforcing both transparency and responsiveness. Similarly, Zeb-Obipi and Eke (2021) found that digital communication competency significantly improves managerial effectiveness among office managers in tertiary institutions in Rivers State, emphasizing the importance of workforce skills alongside technology adoption. Ekweozor and Omah (2025) reported that strategic talent management accounts for over 50 percent of the variance in retention and responsiveness outcomes in oil servicing firms, highlighting that human capital investments are critical for operationalizing e-governance benefits.

METHODOLOGY

This study adopted a cross-sectional survey research design to examine the contemporary relationship between digital transformation and democratic accountability in a natural, non-contrived setting. The institutional population of the study comprised all State Ministries in Rivers State, Nigeria. According to official administrative records of the Rivers State Government, the State operates twenty-six Ministries. These Ministries constitute the direct population frame within which relevant personnel are identified, providing the structural basis for data collection in this study. The target population and study elements comprised senior and middle-level administrative officers—including directors, deputy directors, and information technology personnel—across ten selected government ministries in Port Harcourt, Rivers State. To ensure proportional representation across the administrative clusters, a total of 250 structured questionnaires were distributed using a stratified random sampling technique. The instrument employed a four-point Likert scale to capture respondents' perceptions of e-governance adoption, including e-records and e-communication, institutional Information Management Capacity, particularly strategic information culture, and key democratic accountability outcomes, namely transparency and responsiveness. Data collection yielded 210 valid responses, corresponding to an 84 percent response rate, providing sufficient statistical power for analysis. The retrieved data were subjected to Pearson Product-Moment Correlation to examine the strength and direction of relationships between e-governance, IMC, and accountability variables, while Regression-based Mediation Analysis was employed to assess the indirect effects of Information Management Systems on the relationship between e-governance and democratic accountability, with significance determined at the 0.05 level. This methodological approach allowed for a robust and empirically grounded assessment of how digital tools and institutional capacities interact to influence transparency and responsiveness in the Rivers State public sector.

Table 1: List of Selected State Ministries in Rivers State

S/N	Ministry
1	Ministry of Budget and Economic Planning
2	Ministry of Commerce and Industry
3	Ministry of Education
4	Ministry of Energy and Natural Resources

S/N Ministry

- 5 Ministry of Employment Generation and Empowerment
- 6 Ministry of Environment
- 7 Ministry of Finance
- 8 Ministry of Information and Communications
- 9 Ministry of Justice
- 10 Ministry of Power

Source: Official Administrative Records of the Rivers State Government, (2026)

RESULTS AND DISCUSSION

Hypotheses Testing

The analysis of the relationships between e-governance and the measures of democratic accountability—transparency and responsiveness—produced significant results, indicating strong linkages between digital adoption and public sector outcomes.

Table 2: Correlation Analysis for H₀₁ (E-Governance and Transparency)

Variables	r-value	p-value	Decision
E-Governance → Transparency	0.613	< 0.01	Reject H01

The correlation coefficient (r = 0.613) indicates a strong positive relationship between e-governance adoption and transparency. This result leads to the rejection of H₀₁, confirming that digital applications, such as e-records and electronic communication systems, facilitate accurate document storage, faster information retrieval, and more open administrative processes, thereby reducing institutional bottlenecks. These findings align with global and local studies highlighting the positive effect of digital tools on transparency in governance.

Table 3: Correlation Analysis for H₀₂ (E-Governance and Responsiveness)

Variables	r-value	p-value	Decision
E-Governance → Responsiveness	0.541	< 0.01	Reject H02

The correlation coefficient (r = 0.541) demonstrates a significant positive relationship between e-governance adoption and responsiveness. This finding rejects H₀₂, supporting the view that digital governance improves institutional agility by streamlining bureaucratic processes, accelerating decision-making, and enhancing feedback mechanisms that allow citizens to interact with government agencies more effectively.

Mediating Variable Analysis

The study further assessed the mediating role of Information Management Systems (IMS) in the relationship between e-governance and democratic accountability.

Table 4: Regression-based Mediation Analysis (E-Governance → IMS → Accountability)

Path Description	β	t-value	p-value	Outcome
E-Governance → Accountability (Direct)	0.49	5.62	< 0.001	Significant
E-Governance → IMS	0.64	8.37	< 0.001	Significant
IMS → Accountability (Controlling for E-Gov)	0.34	3.97	< 0.001	Partial Mediation

Source: Adapted from Alikornwo & Nwinyokpugi (2025)

The mediation analysis indicates that while e-governance exerts a significant direct effect on accountability (β = 0.49), the inclusion of IMS strengthens the predictive relationship. The indirect effect through IMS (β = 0.34) reveals that digital tools achieve their full potential only when

supported by strong institutional systems capable of capturing, storing, and utilizing information effectively. The model accounted for 52 percent of the variance in democratic accountability outcomes ($R^2 = 0.520$), confirming that IMS functions as a crucial facilitator, enabling e-governance initiatives to translate into improved transparency and responsiveness.

In summary, the results demonstrate that e-governance adoption significantly enhances both transparency and responsiveness in Rivers State, and that robust information management systems are essential for maximizing these effects. These findings provide empirical support for the theoretical propositions of Digital Era Governance, emphasizing that technological adoption alone is insufficient without complementary organizational capacities and strategic information management practices.

Discussion of Findings

The findings of this study indicate that e-governance adoption and Information Management Capacity (IMC) are critical determinants of democratic accountability in Rivers State. The observed significant positive relationship between e-governance and transparency supports the "Accountability by Design" principle, which posits that digital systems inherently reduce opportunities for middleman interference, bureaucratic delays, and corruption (Sharma et al., 2024; Udoh, 2024). By automating administrative processes and facilitating real-time access to records, e-governance minimizes human error and creates a clear audit trail. This finding is consistent with Nwinyokpugi and Bestman (2020), who demonstrated that replacing manual workflows with digital systems enhances efficiency and public access to information, thereby reinforcing transparency in institutional operations.

The mediating effect of Information Management Systems underscores that technology adoption alone is insufficient to achieve democratic accountability. Rather, the operational translation of digital initiatives into measurable governance outcomes depends on administrative capacity and institutionalized information practices. Morisi (2025) emphasizes that organizational infrastructure and human competencies are necessary to ensure that technological innovations yield tangible improvements in decision-making and service delivery. In the context of Rivers State, the results confirm that IMS functions as the conduit through which e-governance tools facilitate accurate record-keeping, timely communication, and coordinated policy implementation.

Moreover, the findings resonate with Obara and Adiele (2025), who highlight that a proactive information culture is essential for evidence-based governance and accountability. The results indicate that when ministries cultivate a strategic approach to information management—prioritizing documentation integrity, data-sharing protocols, and analytical capacity—digital tools are more effectively translated into responsive and transparent public service outcomes. Collectively, the study reinforces the theoretical propositions of Digital Era Governance, demonstrating that digital technologies, when embedded within robust institutional and cultural frameworks, significantly enhance democratic accountability by ensuring that transparency and responsiveness are operationalized in day-to-day governance.

CONCLUSION

The study affirms that e-governance and information management capacity remain central to strengthening transparency, accountability, and administrative responsiveness within the Rivers State public sector. Digital platforms provide the structural foundation for openness in governance, yet their democratic value is contingent on the presence of strong institutional capacity, reflected in a deliberate information culture, skilled personnel, and integrated management systems. Where information assets are poorly managed, technological investments risk reproducing inefficiency, data opacity, and administrative delays. Addressing the challenge of fragmented records and dormant data therefore requires a balanced emphasis on technological acquisition and the strategic governance of information resources.

RECOMMENDATIONS

In view of the foregoing, the study advances the following succinct recommendations:

1. Rivers State should institutionalise comprehensive digital access to public information by developing centralised, networked government portals that guarantee citizens timely and lawful access to official records and policy documents. Such platforms should be designed to reduce administrative discretion, curb information hoarding, and strengthen public oversight, thereby reinforcing transparency and trust in government processes.
2. The public sector should prioritise the development of a strong strategic information culture through enforceable standards on documentation, ethical information use, and records integrity, supported by continuous capacity building for civil servants. Regular training in digital, analytical, and emerging governance technologies is essential to ensure that personnel can effectively utilise information systems and translate data into informed administrative action.
3. Government should invest in integrated and robust information management systems that embed decision support and open data functionalities within routine administrative operations. These systems should enable faster decision making, enhance inter departmental coordination, and make non sensitive government data accessible to the public in user friendly formats, thereby improving service delivery outcomes and strengthening the social contract between the state and its citizens.

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