Electronic Governance, Policy Implementation and Transparency in The Rivers State Ministry of Education, 2019-2025

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https://doi.org/10.56201/jpslr.vol.12.no10.2026.pg114.131

Abstract
Nigeria's public institutions have increasingly turned to electronic governance as a strategy for overcoming chronic inefficiencies in policy execution, yet evidence on whether digital reforms narrow the gap between policy intention and policy delivery at the ministry level remains limited. This study examined the impacts of electronic record management systems, digital communication platforms, and online administrative services on policy implementation and transparency in policy execution in the Rivers State Ministry of Education between 2019 and 2025. The study is anchored on the Technology Acceptance Model and Institutional Theory. The study adopted the descriptive survey design. Likert scale structured questionnaire were administered to 320 ministry staff selected through stratified random sampling from a population of 1,600, yielding 271 valid responses at an 84.7% response rate. Data were analysed using descriptive statistics and multiple linear regression at the 0.05 significance level. The findings revealed that the three electronic governance components jointly and significantly predicted both policy implementation and transparency in policy execution. Electronic record management emerged as the dominant predictor of policy implementation, while digital communication platforms and online administrative services were the stronger predictors of transparency in policy execution. The study concluded that electronic governance components serve distinct institutional functions and that no single component is equally effective across both governance outcomes. The study recommended that government ministries should make targeted investments in record management systems to strengthen policy implementation and in communication and online-service platforms to advance transparency in policy execution.

Keywords: *electronic governance, policy implementation, transparency, record management, education*

Introduction

Public institutions across Nigeria have, over the past decade, come under sustained pressure to digitise their administrative processes, not merely as a matter of modernisation but as a response to the long-standing complaint that government policies are frequently well designed but poorly delivered. The Rivers State Ministry of Education, charged with translating state education policy into measurable outcomes across the state's primary and secondary school system, has been no exception to this pressure. Between 2019 and 2025, the ministry progressively introduced electronic record management systems, digital communication platforms, and online administrative services into its operations, in a manner

consistent with the wider national drive toward electronic governance in Nigerian public administration (Atunramu & Adeosun, 2025).

Electronic governance, understood as the application of information and communication technologies by government institutions to improve service delivery, administrative efficiency, transparency, and policy implementation (Ihemadu, 2025), is frequently promoted as a near-automatic remedy for the implementation gap that has long troubled Nigerian public administration. Yet the empirical record on whether digital tools actually close this gap, as opposed to merely accompanying it, remains considerably thinner than the enthusiasm with which electronic governance reforms are announced. Much of the existing Nigerian literature treats electronic governance as a single, undifferentiated construct, reporting that it is 'significant' for one outcome or another without establishing which specific component of a digital governance system, record-keeping, communication, or service delivery, is actually responsible for the effect observed (Akpan, Mmeah, & Baah, 2018; Bassey, Umana, & Philip, 2025). This generalisation matters because policy implementation and transparency, while related, are analytically distinct administrative functions. Implementation concerns whether staff comply with and execute policy directives as designed; transparency concerns whether the ministry's operations and the information it generates are genuinely visible and accessible to stakeholders. A digital tool that strengthens one function need not strengthen the other, and a ministry that invests indiscriminately in electronic governance without attending to this distinction risks achieving neither outcome as fully as it might. It is this precise gap, the absence of a disaggregated, component-level account of how electronic governance affects implementation and transparency separately, that the present study addresses.

The problem is compounded by the fact that formal digital adoption does not always correspond to a genuine shift in administrative practice. Institutional Theory's concept of decoupling, the persistence of informal, manual routines alongside formally adopted digital systems (Meyer & Rowan, 1977), offers a cautionary reminder that a ministry may appear, on paper, to have embraced electronic governance while its day-to-day operations continue to rely substantially on older procedures. Understanding which specific electronic governance components are genuinely driving implementation and transparency outcomes, rather than simply which ones have been adopted, is therefore essential for directing scarce public resources toward the interventions most likely to yield results.

This article accordingly draws on a broader doctoral-level study of electronic governance in the Rivers State Ministry of Education to pursue two specific, interrelated objectives. The first is to assess the effect of electronic record management systems, digital communication platforms, and online administrative services on policy implementation in the ministry. The second is to evaluate the effect of the same three components on transparency in policy execution within the ministry. By modelling both outcomes using an identical set of predictors, the study is able to establish, with some precision, whether implementation and transparency are driven by the same digital tools or by different ones, a question with direct implications for how the ministry, and comparable public institutions, should sequence and target their digital governance investments. The choice of the 2019-2025 period is significant, as it captures the Rivers State Ministry of Education's electronic governance drive across both the pre-pandemic introduction of digital administrative tools and the accelerated digitisation that followed the COVID-19 disruption of conventional, paper-based public administration, a period during which many Nigerian public institutions were compelled to rapidly expand their reliance on digital communication and remote service delivery (United Nations, 2024). Examining this specific six-year window therefore offers a timely empirical account of whether that accelerated digital push has translated into durable gains in policy implementation and transparency, or whether, as Institutional Theory would predict, the gains have been partial and unevenly distributed across the ministry's different electronic

governance components. The study was instituted to achieve two research objectives that is: to assess the impact of electronic governance components on policy implementation in the Rivers State Ministry of Education, and to evaluate the impact of electronic governance components on transparency in policy execution in the Rivers State Ministry of Education.

Theoretical Review

Technology Acceptance Model

The Technology Acceptance Model (TAM) serves as the primary theoretical anchor for this study. Proposed by Davis (1989) and developed from the Theory of Reasoned Action (Ajzen & Fishbein, 1975, 1980), TAM was constructed to explain why individuals in organisational settings frequently fail to adopt or fully use information systems that have been deliberately designed to improve their work performance. The model identifies perceived usefulness and perceived ease of use as the two central beliefs that determine attitude toward a technology, behavioural intention, and ultimately actual system use (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989). Perceived usefulness refers to the belief that a given system will improve job performance, while perceived ease of use refers to the belief that a system is simple to learn and operate. Davis, Bagozzi, and Warshaw (1989) note that external variables, such as system design, training, organisational support, and infrastructure, do not determine system use directly but instead shape it indirectly, by influencing these two beliefs. Subsequent extensions, including TAM2 (Venkatesh & Davis, 2000) and the Unified Theory of Acceptance and Use of Technology (Venkatesh, Morris, Davis, & Davis, 2003), have added social and organisational factors to the original model, but the core proposition, that usefulness and ease of use jointly determine technology acceptance, remains central to electronic governance research. TAM is particularly instructive for this study because it anticipates that a single technology, or a single government's digital governance programme, need not be perceived as equally useful across all of the administrative functions it touches. Davis (1989) argues that perceived usefulness is task-specific rather than uniform: a tool experienced as highly useful for one organisational function may not be experienced as similarly useful for another. This proposition offers a direct theoretical basis for expecting that electronic record management, digital communication platforms, and online administrative services, though jointly introduced as components of the same electronic governance programme, might differ markedly in which specific institutional outcome, implementation or transparency, each is perceived to serve.

Although TAM explains how perceived usefulness and ease of use influence personnel's acceptance of electronic governance tools, it does not adequately explain how institutional rules, bureaucratic practices, and organisational pressures shape their implementation and transparency outcomes. This limitation necessitates Institutional Theory, which complements TAM by explaining how institutional conditions influence the effective use and outcomes of electronic governance in the Rivers State Ministry of Education.

Institutional Theory

Institutional Theory provides the second theoretical lens for this study, offering an organisational-level complement to TAM's individual-level focus. The theory's modern form traces to Selznick (1957), whose study of the Tennessee Valley Authority demonstrated that organisations gradually acquire values and patterns of behaviour that persist beyond their formal rules, and was substantially developed by Meyer and Rowan (1977), who argued that organisations often adopt formal structures and technologies to signal legitimacy and modernity to their institutional environment, even where such adoption does not immediately or fully translate into improved operational performance.

Central to Institutional Theory is the concept of decoupling, the gap between formally adopted policies or technologies and the actual practices that continue on the ground (Meyer & Rowan, 1977). DiMaggio and Powell (1983) extended the theory by identifying institutional isomorphism, the tendency of organisations within a shared environment to adopt similar structures through coercive, mimetic, and normative pressures, while Scott (2001) synthesised these contributions into a three-pillar framework distinguishing the regulative pillar (rules, monitoring, and sanctions), the normative pillar (values and social obligations), and the cognitive pillar (shared, taken-for-granted beliefs) through which institutions shape organisational behaviour. Suchman (1995) further argued that organisations frequently adopt visible, externally-facing practices specifically to demonstrate accountability and legitimacy to external audiences, a proposition directly relevant to how public institutions use digital platforms to project transparency.

Institutional Theory is relevant to the present study in two specific ways. First, it anticipates that the Rivers State Ministry of Education's adoption of electronic governance tools may be driven as much by coercive and normative pressure to appear modern and accountable as by a calculated assessment of operational efficiency (Woodhouse, 2024), which helps explain why formally adopted digital systems might coexist, for some time, with the manual procedures they were meant to replace. Second, Scott's (2001) distinction between the regulative and normative-legitimacy functions of institutions offers a direct theoretical explanation for why implementation and transparency might be served by different electronic governance components: record-keeping systems chiefly strengthen the internal, regulative function of monitoring and compliance, while externally visible communication and service platforms chiefly strengthen the normative, legitimacy-seeking function through which institutions demonstrate accountability to the public they serve.

North's (1990) distinction between formal institutions, such as laws, policies, and administrative regulations, and informal institutions, such as bureaucratic custom and staff behavioural norms, further clarifies why a ministry's formal commitment to electronic governance, expressed through policy directives and budgetary allocations, does not automatically produce a corresponding shift in the informal, day-to-day habits of its staff. Institutional change, North (1990) argues, is typically gradual and path-dependent, with existing administrative traditions constraining the pace and depth of digital reform. This expectation of gradual, uneven institutional change provides the theoretical grounding for the study's working assumption that electronic governance's effects on implementation and transparency, even where both are statistically significant, are unlikely to be uniform across the ministry's different digital components.

Conceptual Review

Policy Implementation

Policy, in its broadest sense, has been variously defined in the literature. Titmuss (1974) describes policy as the authoritative decisions made by the legislative, judicial, or executive branches of government, while McLean and McMillan (2010) define it as authoritative declarations or rulings designed to guide institutional or individual behaviour toward particular goals. Longest (2015) similarly characterises policy as the set of guidelines that direct action toward a specific objective. Anderson (2011) sharpens this definition by describing policy as a relatively stable and purposeful course of action adopted by an actor or group of actors in response to a problem of concern, a formulation that highlights three defining features: stability over time, purposiveness, and orientation toward a recognised problem. Dye (2013) extends this view by describing policy as a statement of goals accompanied by the strategies required to achieve them, drawing attention to the critical relationship between stated intentions and the operational mechanisms through which they

are pursued. Cairney (2019) observes that the gap between these intentions and the actions ultimately taken frequently undermines policy outcomes, which is precisely the gap that policy implementation, as a distinct stage of the policy process, is concerned with closing. Howlett, Mukherjee, and Koppenjan (2017) describe policy as a complex social phenomenon involving problem definition, stakeholder engagement, resource allocation, implementation, and ongoing evaluation within dynamic institutional environments, while Howlett and Mukherjee (2018) emphasise that policy must be understood as both process and product, requiring attention to how policies are formulated, adopted, implemented, and evaluated, as well as to their formal content and design.

Capano and Howlett (2020) note that policy instruments vary in their coerciveness, directness, automaticity, and visibility, and that the choice of instrument significantly shapes implementation feasibility and ultimate effectiveness. Ikelegbe (2006) adds that policy is fundamentally about action, about what governments or institutions choose to do, or deliberately choose not to do, in response to a societal issue, with inaction itself constituting a policy choice with consequences for those affected. For the purposes of this study, policy implementation is operationally understood as the process through which government decisions, plans, or education-sector policies are executed within the Rivers State Ministry of Education to achieve their intended outcomes, encompassing staff compliance with policy directives, the reduction of bureaucratic bottlenecks, and the narrowing of the gap between a policy's stated intentions and what is actually delivered to its beneficiaries.

Beyond its definitional content, policy implementation research has increasingly recognised that implementation outcomes are shaped by factors operating well beyond the policy document itself. Cairney and Weible (2017) identify multiple theoretical lenses, including the Multiple Streams Framework and the Advocacy Coalition Framework, through which implementation can be understood as the product of interactions among diverse actors operating within institutional constraints, while Weible and Ingold (2018) emphasise the role of belief systems and policy-oriented learning in shaping how implementation unfolds over time. Jones, Peterson, Pierce, Herweg, Bernal, Raney, and Zahariadis (2016) similarly caution against treating implementation as a purely rational, linear process, noting that ambiguity and shifting political circumstances routinely complicate the translation of policy intention into administrative practice. This body of scholarship underscores why electronic governance, as a tool intended to narrow the implementation gap, cannot be assumed to operate uniformly: its effect on implementation is itself conditioned by the same institutional dynamics, staff capacity, bureaucratic tradition, and organisational culture, that shape policy implementation more generally.

Transparency in Policy Execution

Transparency, as a governance concept, is closely tied to the broader promise of electronic governance. The World Bank (2021) characterises electronic governance as the use of information technology by government authorities to transform relations with citizens, businesses, and other government entities, with expected benefits including reduced corruption, increased transparency, and improved user satisfaction. Ihemadu (2025) similarly describes electronic governance as pursuing three main goals: enhancing service and information provision, encouraging citizen participation, and developing more transparent, accountable, and efficient government. Sunday (2014) characterises electronic governance specifically as the use of ICT by government departments to promote accountability, create public awareness, and guarantee transparency in administration.

Duru and Anigbata (2015) frame this somewhat more critically, describing government's use of modern communication technology partly as a political strategy to demonstrate transparency and accountability in its activities, a framing that resonates with Institutional

Theory's account of legitimacy-seeking institutional behaviour (Suchman, 1995). Coleman (2008) offers a more structural account, describing e-governance as the digitised coding, processing, storage, and distribution of data relating to three core governmental functions: the representation and regulation of citizens, the delivery of public services, and the generation and circulation of official information between government and the governed, this last function being most directly implicated in transparency. Wimmer and Traunmüller (2001) identify the restructuring of administrative processes and the monitoring of government performance as among electronic governance's principal objectives, both of which bear directly on whether an institution's operations are rendered visible and legible to the stakeholders it serves. Palvia and Sharma (2007) and Nkwe (2012) both situate electronic governance within a broader shift away from traditional, closed bureaucratic models toward governance structures that are, at least in principle, more open and accessible, while Estevez and Janowski (2013) conceptualise electronic governance as the application of technology by government organisations to transform their activities and interactions with citizens in ways that create a more informed and engaged society. For the purposes of this study, transparency is operationally understood as the openness and clarity with which the Rivers State Ministry of Education conducts its operations, particularly with respect to the accessibility of policy-related information, the trustworthiness of that information as perceived by stakeholders, and the degree to which electronic systems reduce opportunities for the unauthorised alteration of official records. It is worth noting that transparency, so defined, is conceptually distinct from policy implementation, even though both are frequently discussed together in the electronic governance literature as if they were a single outcome. Implementation is primarily an internal administrative achievement, concerned with whether staff execute policy as designed; transparency is primarily an external-facing achievement, concerned with whether the ministry's operations are visible, accessible, and credible to the stakeholders outside it. Bashir, Abiso, Galtimari, and Musami (2023) note that electronic governance's ultimate objective is to genuinely enable and empower the citizen, a function that depends specifically on transparency rather than on implementation efficiency alone. This conceptual distinction is the analytical starting point for the present study's decision to model implementation and transparency as separate, rather than interchangeable, outcomes of the ministry's electronic governance components.

Methodology

This study adopted a descriptive survey research design, which was considered suitable because it allowed for the systematic collection and analysis of quantitative data on the relationship between electronic governance components and the two outcomes of interest, policy implementation and transparency in policy execution, within the Rivers State Ministry of Education between 2019 and 2025.

The population of the study comprised all staff of the Rivers State Ministry of Education directly involved in policy formulation, implementation, administration, and the use of electronic governance platforms, numbering one thousand six hundred (1,600) persons as obtained from the ministry's administration and human resource department. From this population, a sample size of three hundred and twenty (320) respondents was determined using the Taro Yamane sample size formula (Yamane, 1967), at a 0.05 margin of error. Respondents were selected through stratified random sampling, with the population divided into strata comprising senior administrative officers, departmental heads, ICT personnel, and planning and research staff, ensuring that each category of ministry staff involved in electronic governance was proportionately represented (Cochran, 1977). Within each stratum, respondents were selected by simple random sampling.

Out of the 320 questionnaires administered, 271 were duly completed and returned, yielding a response rate of 84.7 percent, which is considered excellent for the purposes of statistical analysis and generalisation. The primary research instrument was a structured questionnaire divided into two sections: Section A captured respondents' demographic characteristics, while Section B measured the extent of electronic governance adoption and its perceived effects on policy implementation and transparency, using a four-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (4), a format deliberately chosen to avoid a neutral midpoint and compel respondents to take a clear position on each item.

The validity of the instrument was established through expert review by the study's supervisors, who assessed the clarity, relevance, and appropriateness of each item to the constructs being measured, with adjustments made accordingly prior to administration. Reliability was established through a pilot test administered to a small group of staff drawn from a comparable ministry, with responses analysed using the Cronbach Alpha reliability coefficient; a coefficient of 0.70 or above was adopted as the threshold of acceptability, and the instrument met this threshold.

Data were analysed using both descriptive statistics, frequency distribution, percentages, means, and standard deviations, to summarise respondents' demographic characteristics and their Likert-scale responses, and multiple linear regression to test the two hypotheses of interest. Multiple regression was considered appropriate because each objective required establishing how far three independent variables, electronic record management, digital communication platforms, and online administrative services, jointly and individually predicted a continuous outcome, policy implementation in one model and transparency in the other, while holding the other predictors constant (Field, 2018). Each variable was computed as the mean of its constituent Likert items. Overall model fit was assessed using the F-test and the coefficient of determination (R^2), and the relative strength of individual predictors was assessed using standardised beta coefficients and their associated significance levels, with all hypotheses tested at the 0.05 level of significance.

A limitation of the study is its reliance on self-reported staff perceptions rather than independently verified administrative or audit records, which means the findings reflect how electronic governance is experienced and perceived by ministry staff rather than an externally validated measure of implementation fidelity or transparency. The cross-sectional design also captures a single point-in-time assessment of a six-year period of digital adoption, and the study was confined to one state ministry, which may limit the generalisability of its findings to other Nigerian public institutions with different administrative cultures or levels of digital infrastructure.

Data Presentation

A total of 271 validated survey responses, out of 320 questionnaires administered, were collected from staff of the Rivers State Ministry of Education. Table 1 presents the consolidated demographic distribution of these respondents.

Table 1: Demographic Characteristics of Respondents (N = 271)

Variable	Category	Frequency	Percentage (%)
Gender	Male	113	41.7
	Female	158	58.3
	Total	271	100.0
Age	Below 30 years	45	16.6
	31 - 40 years	93	34.3
	41 - 50 years	95	35.1
	51 years and above	38	14.0
	Total	271	100.0
Educational Qualification	OND/NCE	21	7.7
	HND/Bachelor's Degree	169	62.4
	M.Sc.	70	25.8
	PhD	11	4.1
	Total	271	100.0
Years of Service	Below 5 years	72	26.6
	6 - 10 years	103	38.0
	11 - 15 years	75	27.7
	Above 15 years	21	7.7
	Total	271	100.0

Source: Field Survey, 2025

Out of the 320-questionnaire administered to staff of the Rivers State Ministry of Education, 271 were correctly completed and returned, representing a response rate of 84.7 percent, which is well above the threshold generally considered adequate for survey-based analysis. Table 1 presents the demographic distribution of these 271 respondents.

Female respondents constituted a majority of the sample, at 58.3 percent, against 41.7 percent for male respondents. The age distribution was concentrated in the 31-50-year range, which together accounted for 69.4 percent of respondents, suggesting a workforce positioned, in terms of career stage, to engage meaningfully with newly introduced digital tools. A substantial majority of respondents, 88.2 percent, held a Bachelor's degree or higher, and 65.7 percent had accumulated six or more years of service within the ministry, indicating that most respondents were well placed, both educationally and experientially, to offer informed assessments of the ministry's electronic governance initiatives and their impacts on policy implementation and transparency.

Data Analysis

Objective 1: Impact of Electronic Governance on Policy Implementation

Table 2: Impact of Electronic Governance on Policy Implementation

Item	SD	D	A	SA	Mean	RII
Electronic governance tools help ensure that education policies are implemented according to their original design and directives.	31	49	110	81	2.89	0.72
Digital platforms make it easier for staff to follow through on assigned policy implementation tasks.	28	44	114	85	2.94	0.74
Electronic governance has reduced paperwork and bureaucratic bottlenecks during policy	21	53	121	76	2.93	0.73

Item	SD	D	A	SA	Mean	RII
implementation.						
Electronic governance has reduced the gap between what education policies intend to achieve and what is actually delivered.	14	47	116	92	3.06	0.77
Staff compliance with policy directives has improved since the introduction of electronic governance systems.	27	45	113	86	2.95	0.74
Cluster Mean					**2.95**	**0.74**

Source: Field Survey, 2025

Table 2 shows that respondents generally agreed that electronic governance has positively influenced policy implementation in the Rivers State Ministry of Education, with all five items recording mean scores above the criterion mean of 2.50. The item indicating that electronic governance has reduced the gap between what education policies intend to achieve and what is actually delivered recorded the highest mean score (Mean = 3.06, RII = 0.77), suggesting that respondents perceive digital tools as narrowing the historic gap between policy design and policy delivery that has long troubled Nigerian public administration (Imhanlahimi & Ajiteru, 2023). Staff compliance with policy directives (Mean = 2.95, RII = 0.74) and ease of following through on assigned implementation tasks (Mean = 2.94, RII = 0.74) also recorded strong agreement, while the reduction of bureaucratic bottlenecks (Mean = 2.93, RII = 0.73) and the assurance of fidelity to original policy design (Mean = 2.89, RII = 0.72) recorded comparatively more modest, though still positive, scores. The cluster mean of 2.95 confirms an overall favourable perception of electronic governance's contribution to policy implementation.

Hypothesis 1

H01: Electronic record management systems, digital communication platforms, and online administrative services do not significantly predict policy implementation in the Rivers State Ministry of Education.

Table 3: ANOVA for Regression of Policy Implementation on Electronic Governance Components

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	54.63	3	18.21	564.2	< .001
Residual	8.60	267	.032		
Total	63.23	270			

Table 4: Coefficients for Regression of Policy Implementation on Electronic Governance Components

Model	B	Std. Error	Beta	t	Sig.
(Constant)	.835	.176		4.741	< .001
Electronic Record Management	.635	.024	.698	26.418	< .001
Digital Communication Platforms	.193	.020	.262	9.672	< .001
Online Administrative Services	-.089	.027	-.100	-3.303	.001

Dependent Variable: Policy Implementation.

Decision: Since $F(3, 267) = 564.2$, $p < .001$ is less than the 0.05 level of significance, the null hypothesis (H01) is rejected. Electronic record management systems, digital communication platforms, and online administrative services jointly and significantly predict policy implementation in the Rivers State Ministry of Education, accounting for 86.4 percent of the variance in implementation scores. Examination of the individual coefficients shows electronic record management as the dominant predictor ($\beta = .698$, $p < .001$), followed by digital communication platforms ($\beta = .262$, $p < .001$), while online administrative services recorded a small but statistically significant negative individual contribution ($\beta = -.100$, $p = .001$) once the other two predictors were held constant, a suppression effect indicating that, net of record management and communication gains, further growth in online administrative services specifically does not add independent improvement to implementation outcomes.

Objective 2: Impact of Electronic Governance on Transparency in Policy Execution

Table 5:Impact of Electronic Governance on Transparency in Policy Execution

Item	SD	D	A	SA	Mean	RII
Digital platforms have improved transparency in decision-making processes.	28	43	113	87	2.96	0.74
The use of ICT has improved accountability in the ministry.	31	76	81	83	2.80	0.70
Electronic governance has made policy-related information more accessible to stakeholders.	42	39	99	91	2.88	0.72
Electronic record management systems reduce opportunities for unauthorised alteration of policy documents.	34	51	108	78	2.85	0.71
Stakeholders trust information provided through the ministry's digital platforms.	22	13	106	130	3.27	0.82
Cluster Mean					**2.95**	**0.74**

Source: Field Survey, 2025

Table 5 shows that respondents generally agreed that electronic governance has enhanced transparency in policy execution, with mean scores ranging from 2.80 to 3.27, all exceeding the criterion mean of 2.50. The highest-rated item, that stakeholders trust information provided through the ministry's digital platforms (Mean = 3.27, RII = 0.82), suggests a strong level of confidence in the credibility of digitally disseminated information, a foundational requirement for institutional transparency. Digital platforms were also seen as having improved transparency in decision-making processes (Mean = 2.96, RII = 0.74) and as having made policy-related information more accessible to stakeholders (Mean = 2.88, RII = 0.72). By contrast, the item on ICT improving accountability within the ministry recorded the lowest mean (Mean = 2.80, RII = 0.70), suggesting that while information-sharing has visibly advanced, the ministry's formal accountability mechanisms have progressed somewhat more modestly.

Hypothesis 2

H02: Electronic record management systems, digital communication platforms, and online administrative services do not significantly predict transparency in policy execution in the Rivers State Ministry of Education.

Table 6: ANOVA for Regression of Transparency on Electronic Governance Components

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	72.65	3	24.22	295.0	< .001
Residual	21.99	267	.082		
Total	94.64	270			

Table 7: Coefficients for Regression of Transparency on Electronic Governance Components

Model	B	Std. Error	Beta	t	Sig.
(Constant)	-.602	.254		-2.372	.018
Electronic Record Management	.010	.035	.012	.284	.777
Digital Communication Platforms	.516	.029	.627	17.951	< .001
Online Administrative Services	.679	.039	.613	17.539	< .001

Dependent Variable: Transparency.

Decision: Since $F(3, 267) = 295.0$, $p < .001$ is less than the 0.05 level of significance, the null hypothesis (H02) is rejected. The three electronic governance components jointly and significantly predict transparency in policy execution, accounting for 76.8 percent of the variance in transparency scores. However, the pattern of individual predictors diverges markedly from that found for policy implementation: digital communication platforms ($\beta = .627$, $p < .001$) and online administrative services ($\beta = .613$, $p < .001$) emerge as strong, highly significant predictors of transparency, while electronic record management is not a statistically significant individual predictor of transparency ($\beta = .012$, $p = .777$) once the other two predictors are held constant.

Discussion of Findings

Electronic Governance and Policy Implementation

The finding that electronic record management, digital communication platforms, and online administrative services jointly explain 86.4 percent of the variance in policy implementation represents an exceptionally strong model fit, and confirms that policy implementation in the Rivers State Ministry of Education is substantially conditioned by the digital infrastructure available to support it, rather than being solely a function of administrative will or bureaucratic tradition. Within this strong overall result, however, the individual coefficients reveal a more specific pattern: electronic record management ($\beta = .698$) considerably outweighs digital communication platforms ($\beta = .262$) as a driver of implementation, while online administrative services register a small negative individual contribution ($\beta = -.100$) once the other two predictors are accounted for.

This pattern is consistent with the Technology Acceptance Model's proposition that perceived usefulness is task-specific rather than uniform (Davis, 1989). Respondents appear to experience the clearest, most tangible usefulness from well-organised digital records, which directly enable staff to track, monitor, and demonstrate compliance with policy directives, precisely the function that Venkatesh and Davis (2000) argue drives the most reliable behavioural change: perceived usefulness translates into use most consistently when a technology directly supports a user's core task performance. The comparatively modest, and in the case of online services negative, individual contribution of the other two components suggests that, for implementation purposes specifically, these tools have not yet been

perceived as similarly indispensable, which is a plausible reflection of their more recent and still-developing integration into the ministry's core implementation workflows.

From the perspective of Institutional Theory, this finding illustrates how digital tools can strengthen the regulative pillar of institutions, the rules, monitoring mechanisms, and sanctions that guide staff behaviour (Scott, 2001). By making policy directives and their execution more visible and traceable, electronic record management appears to reinforce staff compliance in a manner consistent with Scott's (2001) argument that institutions rely on regulative structures to secure predictable behaviour. Woodhouse (2024) observes that institutions undergoing digital reform often see improvements concentrated in specific, well-embedded systems rather than distributed uniformly across all adopted technologies, a pattern precisely mirrored in the present finding that record management, rather than online services, is implementation's dominant predictor.

These findings are broadly consistent with the wider Nigerian literature on electronic governance and policy implementation. Sarumi, Nchuchuwe, Assibong, and Oluye (2019) found that digital tools improved operational efficiency and facilitated more effective policy implementation within Lagos State's basic education sector, a result closely mirrored in the present study. While remaining comparatively less impactful in general administration, a pattern consistent with the present study's finding that implementation gains were concentrated in record management rather than spread evenly across all electronic governance components. Unlike much of the reviewed Nigerian literature, which tends to treat electronic governance as a single, undifferentiated construct whose overall effect on administrative outcomes is reported without disaggregation (Akpan, Mmeah, & Baah, 2018; Bassey, Umana, & Philip, 2025), the present study's component-level regression analysis offers a more precise account of which specific digital tool is actually responsible for implementation gains. This disaggregated finding carries a direct practical implication: a ministry seeking to strengthen policy implementation through electronic governance would be better served by prioritising investment in record management systems specifically, rather than distributing resources evenly across all categories of digital infrastructure.

Electronic Governance and Transparency in Policy Execution

The finding that the same three electronic governance components jointly explain 76.8 percent of the variance in transparency, while statistically robust, reveals a pattern of individual predictors that diverges sharply from that found for policy implementation. Digital communication platforms and online administrative services emerge as the strong, significant individual predictors of transparency, while electronic record management, the dominant predictor of implementation, is not a significant individual predictor of transparency once the other two variables are held constant. This divergence is, in itself, one of the study's more theoretically important findings, since it demonstrates empirically that implementation and transparency, though both products of the same electronic governance programme, are driven by different specific components of that programme.

The Technology Acceptance Model again provides a compelling interpretive lens. Davis's (1989) proposition that perceived usefulness is task-specific rather than uniform across all applications of a technology is, if anything, more sharply illustrated here than in the implementation model. Electronic record management appears to be perceived as useful chiefly for internal tasks, tracking, compliance, and documentation, rather than for the external-facing function of rendering ministry operations visible to stakeholders. Communication platforms and online services, by contrast, are the tools through which information actually reaches stakeholders and becomes available for scrutiny, which plausibly explains why these are the components respondents associate with transparency gains. From the perspective of Institutional Theory, this finding can be understood through

Scott's (2001) distinction between the regulative and normative pillars of institutions. Where record management strengthens the regulative pillar, internal rules, monitoring, and compliance, communication and online service platforms appear instead to strengthen the normative, legitimacy-seeking function of the ministry, exposing its operations to external stakeholder visibility in a manner consistent with institutional isomorphism (DiMaggio & Powell, 1983). Suchman (1995) argues that organisations often adopt visible, externally-facing practices specifically to demonstrate accountability and modernity to external audiences, precisely the function that communication and online service platforms appear to serve here, by comparison with the more internally-oriented function of record management systems.

These findings align with, and add meaningful nuance to, the broader empirical literature on electronic governance and transparency. Wijaya, Alfitri, Thamrin, and Salya (2024) found that e-government initiatives enhance transparency and accountability primarily by improving access to information and accelerating service processes, functions closely aligned with the communication and online-service components identified as significant in the present study. Dehinsilu-Isa and Akeem (2025) similarly found that electronic governance significantly promoted transparency within Lagos State's education districts, though effectiveness was constrained by infrastructural and capacity limitations, a caution that resonates with the comparatively modest accountability score (Mean = 2.80) recorded in the present study. Unlike much of the prior Nigerian electronic governance literature, which tends to treat e-governance as a single, undifferentiated construct whose effects on transparency and other outcomes are reported without disaggregation (Akpan, Mmeah, & Baah, 2018; Bassey, Umana, & Philip, 2025), the present study's disaggregated regression findings offer a more precise account of which specific digital components drive transparency, a distinct empirical contribution that carries a direct practical implication: a ministry seeking to strengthen transparency through electronic governance would be better served by prioritising investment in communication and online-service platforms specifically, rather than in record management systems, even though the latter remains the more decisive lever for implementation gains.

Key Findings

Electronic record management systems, digital communication platforms, and online administrative services jointly and significantly predict policy implementation in the Rivers State Ministry of Education, accounting for 86.4 percent of the variance in implementation scores ($R^2 = .864$, $F(3, 267) = 564.2$, $p < .001$). Electronic record management emerges as the dominant individual predictor of policy implementation ($\beta = .698$, $p < .001$), considerably outweighing digital communication platforms ($\beta = .262$, $p < .001$), while online administrative services record a small but statistically significant negative individual contribution ($\beta = -.100$, $p = .001$) once the other two predictors are held constant. The same three electronic governance components jointly and significantly predict transparency in policy execution, accounting for 76.8 percent of the variance in transparency scores ($R^2 = .768$, $F(3, 267) = 295.0$, $p < .001$). Unlike the pattern found for implementation, digital communication platforms ($\beta = .627$, $p < .001$) and online administrative services ($\beta = .613$, $p < .001$) are the significant individual predictors of transparency, while electronic record management is not a significant individual predictor of transparency ($\beta = .012$, $p = .777$). Respondents expressed the highest level of agreement with the statement that stakeholders trust information provided through the ministry's digital platforms (Mean = 3.27, RII = 0.82), the single highest-rated item across both outcome measures, indicating strong perceived credibility of digitally disseminated information. Respondents expressed comparatively more modest agreement that electronic governance has improved accountability in the ministry

(Mean = 2.80, RII = 0.70), suggesting that formal accountability mechanisms have advanced less quickly than information-sharing and communication functions. The divergence between the predictors of implementation and transparency indicates that electronic governance components serve distinct institutional functions, with implementation and transparency gains each dependent on a different, non-interchangeable, digital component of the ministry's electronic governance programme.

Conclusion

This study examined the impacts of electronic record management systems, digital communication platforms, and online administrative services on policy implementation and on transparency in policy execution in the Rivers State Ministry of Education between 2019 and 2025, guided by the Technology Acceptance Model and Institutional Theory. The findings demonstrate that electronic governance has become a meaningful and measurable feature of administrative practice within the ministry, with digital tools jointly accounting for a substantial share of the variance in both implementation and transparency outcomes.

However, the study's central contribution lies in its disaggregated finding that these two outcomes, though both broadly attributable to electronic governance, are driven by different specific components of the ministry's digital infrastructure. Electronic record management systems have proven to be the primary engine of policy implementation, enabling staff to track, monitor, and comply with policy directives more effectively than before. Digital communication platforms and online administrative services, by contrast, have proven to be the primary engines of transparency, exposing ministry operations to greater stakeholder visibility and strengthening public confidence in official information. Neither function can be assumed simply because electronic governance tools are present in general; each depends on the specific digital component through which it is delivered.

Consistent with Institutional Theory's account of gradual, path-dependent institutional change, the study concludes that the ministry's electronic governance gains, while genuine, remain partial and unevenly distributed across its different digital components, rather than constituting a uniform, completed transformation. This is best understood not as a failure of policy intent but as the expected consequence of digital reform proceeding within an institutional environment whose resources and administrative culture evolve more slowly than its formal policy commitments. A limitation of this study, beyond those already noted in the methodology, is that its reliance on a single ministry and a cross-sectional design means the specific pattern identified here, record management driving implementation while communication and online services drive transparency, cannot yet be assumed to generalise automatically to other Nigerian public institutions with different administrative cultures, staff compositions, or levels of digital infrastructure. Future research employing a longitudinal design, or extending this disaggregated, component-level approach to other state ministries and public institutions, would help to establish whether the pattern identified here reflects a broader structural feature of Nigerian public-sector electronic governance or is specific to the education sector in Rivers State.

Recommendations

Based on the findings of this study, the following recommendations are made:

i. The Rivers State Ministry of Education should prioritise continued investment in electronic record management systems, given that this component emerged as the dominant predictor of policy implementation, including the comprehensive digitisation of staff and policy-related records currently still partly managed through manual procedures.

ii. The ministry should expand and deepen digital communication and online service platforms specifically to strengthen transparency, given that these, rather than record management, were the significant drivers of transparency gains, by ensuring that policy-related information remains consistently accessible to stakeholders and that public trust in the ministry's digital platforms continues to grow.

iii. Given the negative individual contribution of online administrative services to policy implementation once the other two predictors were accounted for, the ministry should review how online service platforms are integrated into implementation-related workflows specifically, to ensure that their further expansion is accompanied by clearer linkage to policy compliance and monitoring functions rather than operating as a parallel, loosely connected system.

iv. Future electronic governance investment decisions within the ministry, and in comparable Nigerian public institutions, should be guided by a differentiated rather than a generalised approach, directing resources toward the specific digital component most likely to achieve the specific institutional outcome, implementation or transparency, that is being targeted.

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