

Impact of E-Governance Adoption in Building Plan Application and Permit Approval Processing on Development Control Administration in Rivers State

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Abstract

this study examined the impact of e-governance adoption in building plan application and permit approval processing on development control administration in rivers state. The study was undertaken against the background of increasing urban development pressures and the need to improve the efficiency, transparency, and coordination of physical planning administration through digital technologies. A mixed-methods research design was adopted within a pragmatist paradigm, combining quantitative survey data with qualitative semi-structured interviews. The study population comprised 3,692 relevant staff, professionals, applicants, and stakeholders across the Rivers State Ministry of Urban Development and Physical Planning, Rivers State Ministry of Lands and Survey, and Greater Port Harcourt City Development Authority. A sample of 361 respondents was determined using the Taro Yamane formula, with 397 questionnaires administered after allowing for attrition. Data were analysed using descriptive statistics and Pearson Product-Moment Correlation, while interview information was subjected to thematic analysis. Findings showed that respondents agreed that e-governance had been adopted in building plan application and permit approval processing, with a grand mean of 2.66. Electronic payment recorded the highest mean (2.72), while online application status tracking recorded the lowest (2.61). Pearson correlation revealed a strong, positive, and statistically significant relationship between e-governance adoption and development control administration ($r = 0.540$, $t = 12.11$, $df = 356$, $p < .05$). The null hypothesis was therefore rejected. Qualitative evidence further indicated that adoption had been largely demand-driven by larger commercial developers, while smaller applicants continued to favour physical processes. The study concluded that e-governance adoption had significantly improved development control administration, although gaps in accessibility, trust, and complete digital transition remained. The study recommended that ministry of Urban Development and Physical Planning should extend targeted outreach and simplified onboarding support to individual and small-scale permit applicants specifically, since the finding that adoption in building plan application and permit approval processing has been demand-led and developer-concentrated indicates that smaller applicants require deliberate institutional effort, rather than passive platform availability alone.

Keywords: Development Control, Administration, E-Governance, Building Plan, Permit Processing.

Introduction

Urban development control is the statutory process through which planning authorities regulate, monitor, and enforce compliance of building and land-use activities with approved plans and standards, so as to secure orderly, safe, and sustainable physical development (Olarotimi & Ayoola, 2025). In most Nigerian cities, the origins of this process can be traced to the colonial Town and Country Planning Ordinance of 1946, which was modelled on Britain's 1947 Town and Country Planning Act and introduced the first formal framework for regulating land use and building activity in Nigerian urban centres. This colonial framework was subsequently strengthened after Nigeria's independence by the Land Use Act of 1978, which vested the ownership of land in state governors, and by the Nigerian Urban and Regional Planning Act of 1992, now Cap U2, Laws of the Federation of Nigeria 2004, which remains the most comprehensive national planning legislation and which established planning authorities at the federal, state, and local government levels. The urgency of effective development control has grown in tandem with the pace of Nigeria's urbanisation. Nigeria's urban population, already the largest in Sub-Saharan Africa, is projected by the United Nations to surpass two hundred million people by the middle of the twenty-first century, a trajectory that places considerable pressure on planning institutions originally designed for a smaller and far less complex urban environment. Unregulated development arising from this growth manifests as urban sprawl, informal settlement, infrastructural overload, and, in extreme cases, building collapse and loss of life, outcomes that have been documented across several Nigerian cities, including Lagos and Port Harcourt. It is within this wider national context of rapid, and in many respects poorly managed, urban growth that the specific case of Rivers State must be understood. In Rivers State, the statutory mandate for development control is discharged by the Ministry of Urban Development and Physical Planning, established and operating under the framework of the Rivers State Physical Planning and Development Law of 2003, in conjunction with allied bodies such as the Rivers State Physical Planning and Development Authority and the Greater Port Harcourt City Development Authority (Eriaye, 2022). The Ministry occupies a central place in the governance of Port Harcourt, Nigeria's oil and gas capital and one of the most rapidly growing cities in the Niger Delta region, where the task of reconciling private development interests with orderly public planning is especially demanding given the volume of commercial and residential development activity that the city's economic profile attracts.

Within the Ministry, the development control function is discharged through a chain of specialised units. The Control Department is responsible for receiving and screening building plan applications; the Architecture and Works unit is responsible for vetting architectural, structural, mechanical, and electrical drawings; the Master Plan and Physical Planning Research units are responsible for zoning and land-use verification; the Legal and Administration units are responsible for land title and documentation checks; the Accounts unit is responsible for the assessment and collection of planning fees; and field officers are responsible for site inspection, monitoring, and the enforcement of development permits (Eriaye, 2022). Each of these units performs a discrete function within the overall permit approval chain, and the timeliness of the chain as a whole depends on how efficiently, and how well coordinated, each individual unit's contribution is. The specific procedural requirements that a developer must satisfy before a building plan can be approved by the Ministry illustrate the scale of coordination that the current system demands. A prospective developer is ordinarily required to submit title documentation, evidence of tax clearance, a soil test report prepared by a qualified firm, a workmen's compensation insurance certificate, several sets of drawings duly signed and sealed by registered

professionals, a survey plan charting report obtained from the Office of the Surveyor-General, and, for larger developments, a site analysis report, an environmental impact assessment, and a structural integrity report (Eriaye, 2022). Each of these documents must, under the manual system currently in use, be physically verified, cross-checked, and endorsed by a different unit before a development permit can ultimately be issued to the applicant.

Historically, each of these functions in the Ministry has been performed through manual, paper-based procedures. Building plan applications are submitted physically at the Ministry's offices; architectural and structural drawings are routed by hand between the Control Department, the Architecture and Works unit, and the Accounts unit; land title verification proceeds by way of manual memoranda addressed to the land registry; and site inspection reports are recorded and filed on paper rather than captured in any centralised, searchable system (Diriyai, Amatari-Breford, & Imaitor, 2026; Eriaye, 2022). In recognition of the delay that this sequential process generates, Rivers State introduced a "One-Stop-Shop" arrangement bringing together representatives of the relevant professional bodies in the building industry to jointly vet drawings at a single sitting, a reform intended to reduce the number of separate visits an applicant must make to secure approval (Eriaye, 2022). This reform addressed the coordination of professionals rather than the underlying paper-based character of the workflow itself, and did not introduce any electronic means of submission, tracking, or payment into the process.

At the national level, Nigeria's drive toward e-governance has been anchored by the National Information Technology Development Agency, established to lead digital infrastructure development, digital literacy, and capacity-building within government institutions, and by the National Information and Communication Technology Policy introduced in 2012, which provided an early framework for integrating technology into public administration. These national initiatives were reinforced by the federal government's Vision 20:2020 development blueprint, which identified information and communication technology as a central pillar of Nigeria's aspiration to rank among the twenty largest economies in the world by the year 2020. It is within this broader national policy environment, one that encourages, without uniformly compelling, digital transformation at every tier of government, that individual states, ministries, and agencies, including those domiciled in Rivers State, have pursued their own, often uneven, digital reform agendas. E-governance itself is generally understood as the deliberate application of information and communication technologies by government institutions to improve the efficiency, transparency, accountability, and responsiveness of public service delivery to citizens, businesses, and other arms of government (World Bank, 2016; United Nations Department of Economic and Social Affairs, 2020). Within physical planning specifically, e-governance is commonly analysed along three interlocking relational dimensions: a government-to-citizen dimension, comprising online permit portals and publicly accessible status tracking of applications; a government-to-business dimension, comprising digital submission channels, automated compliance pre-screening, and integrated payment systems for developers and investors; and a government-to-government dimension, comprising automated inter-departmental workflow routing and digital integration with land registry and cadastral databases (Diriyai *et al.*, 2026). A fully digitised planning authority, on this understanding, would combine an online permit portal, a workflow automation engine, a Geographic Information System and spatial intelligence module, a centralised planning database, and a real-time performance monitoring dashboard into a single, interoperable system (Diriyai *et al.*, 2026).

Empirical experience elsewhere in Nigeria illustrates both the promise and the limits of this transition. Lagos State commenced the design and partial automation of its planning permit

process in 2015, in collaboration with its Ministry of Science and Technology, and went live with its electronic Planning Permit platform, known as Lagos e-PP, in February 2016 (Odekunle & Hamed, 2021). Assessment of the platform's operation found that applicants who used the electronic route experienced markedly shorter processing periods, an easier mode of payment, and improved communication with planning officers compared with those who continued along the manual route, and that the great majority of respondents expressed comfort with, and a preference for, the electronic system over the paper-based one (Odekunle & Hamed, 2021). At the same time, the Lagos experience demonstrates that digitisation is neither instantaneous nor uniformly smooth: the platform itself suffered a prolonged system breakdown between 2018 and 2019 arising from a contractual dispute with its technical consultant, during which support and maintenance of the system were not adequately carried out, a reminder that electronic planning systems require sustained institutional and financial commitment rather than a single, one-off deployment (Odekunle & Hamed, 2021). By contrast, a study of Ondo State's Ministry of Physical Planning and Urban Development found that, notwithstanding widespread internet access among prospective applicants, none of the Ministry's planning approval information had been placed online, and that the entire building plan approval process remained paper-based, obliging applicants to visit the Ministry's offices in person merely to track the progress of a pending application (Enisan & Nicolas, 2023). This contrast between the experience of Lagos State and that of Ondo State demonstrates that e-governance adoption in Nigerian physical planning administration is markedly uneven across states, and that a state's general commitment to e-governance rhetoric does not necessarily translate into the digitisation of its planning permit functions in particular. Within Rivers State's own public institutions, there is emerging, though uneven, evidence of e-governance adoption outside the physical planning domain. Rivers State University, for instance, has digitised student admissions, course registration, examinations, results processing, and transcript production through its Student Records Access Management Portal, known as STRAMP, and its eCampus platform, enabling students and graduates to conduct most academic transactions without being physically present on campus (Ojigini, Egobueze, & Amadi, 2025). Similarly, the Rivers State Ministry of Information has adopted digital platforms that respondents in a recent study rated as having improved transparency and accountability in the management of public resources, even as infrastructural constraints such as unstable power supply and unreliable internet connectivity continued to limit the depth of that adoption (Akujuru & Napoleon, 2025). Whether comparable digitisation has taken hold specifically within the Ministry of Urban Development and Physical Planning, across its distinct functions of permit application and approval, technical drawing vetting, zoning and Geographic Information System verification, land title and record management, revenue assessment and payment, and field monitoring and enforcement, has not, however, been established by any existing study. The consequences of a development control regime that has kept pace with neither urban growth nor the possibilities of digital administration are visible in the physical landscape of Port Harcourt itself. Analysis of satellite imagery covering the period from 1986 to 2015 shows that built-up area within Port Harcourt City expanded from approximately 145.66 square kilometres, representing 64.5 per cent of the study area, to 187.62 square kilometres, representing 83.1 per cent of the study area, with the pattern of sprawl concentrated in a north-west and north-south direction across communities such as Borokiri, Diobu, Abuloma, and Orogbum (Chike & Arokoyu, 2021). This rapid, and in many respects poorly coordinated, expansion has been accompanied by a decline in the city's physical environment sufficiently pronounced that Port Harcourt, once celebrated as Nigeria's Garden City, has in recent years

been described in some quarters as having become a garbage city or a tattered city (Echendu, 2023). Residents' own assessment of planning governance in Rivers State reinforces this picture of an administration under strain. A recent survey of residents found that, although most respondents were aware in general terms of the requirement to obtain a building or development permit, fewer than one in five considered themselves very knowledgeable about the permit process, and more than seven in ten had never actually applied for a permit of their own (Dike-Nwamu & Kpang, 2026). The same study found that a majority of respondents believed that planning policies had negatively affected homeowners through property demolitions carried out without proper compensation, and that just over half rated stakeholder engagement and public participation in the state's planning processes as very low (Dike-Nwamu & Kpang, 2026). These findings suggest that the legitimacy of development control enforcement in Rivers State, and not merely its administrative efficiency, is at stake in any conversation about reforming the Ministry's methods of operation. It is against this composite background, a Ministry whose constituent functions remain substantially anchored in manual procedure, a national and sub-national policy environment increasingly oriented toward digital transformation, uneven but growing evidence of e-governance adoption elsewhere in Rivers State's own public institutions, and visible consequences of weak development control both in the state's built environment and in public trust, that the present study examines e-governance and urban development control in the Rivers State Ministry of Urban Development and Physical Planning over the period 2015 to 2026. The period is chosen deliberately: it begins in 2015, shortly before the more concentrated wave of Nigerian state-level e-governance initiatives gathered pace, and it extends to 2026, capturing the years in which digital reform initiatives, both nationally and within Rivers State's own institutions, have gained visible momentum. Examining this window as a single, function-disaggregated study allows the Ministry's progress, or the lack of it, to be assessed against a clear historical baseline rather than against an undifferentiated and static present. The objective of the study was to examine the relationship between e-governance adoption in building plan application and permit approval processing and the level of development control administration in Rivers State. Arising from the objective above, this study sought to answer the research question; of, what is the relationship between e-governance adoption in building plan application and permit approval processing and the level of development control administration in Rivers State? In line with the question, the null hypothesis that there is no relationship between e-governance adoption in building plan application and permit approval processing and the level of development control administration in Rivers State was formulated to guide the study.

Urban Bias Theory

This study is anchored on Urban Bias Theory, whose foundational and most frequently cited articulation is that of Michael Lipton (1977) in his seminal work examining why poor people stay poor, subtitled a study of urban bias in world development. Lipton (1977) argues that the most important class conflict in poor countries is not, as classical Marxist analysis would suggest, between labour and capital, nor between foreign and national interests, but between the rural and urban classes, and that urban classes, despite comprising a minority of the population in most developing countries, exercise disproportionate influence over the allocation of scarce public resources. Lipton's central claim is that this urban class, comprising government officials, urban workers, industrialists, and other city-based interests, systematically directs public investment, infrastructure, administrative capacity, and favourable pricing policy toward urban areas at the expense of the rural majority, not because urban investment is more economically

efficient, but because urban populations are better positioned, through geographic concentration, organisational capacity, and physical proximity to the seat of government, to translate their interests into public policy. Other notable contributors to the theory include Robert Bates (1981), who extended urban bias theory specifically to African agricultural pricing policy, demonstrating that many African governments systematically priced agricultural produce below its market value, transferring resources from rural agricultural producers to urban consumers and industrial interests, a pattern Bates (1981) identifies as a direct policy expression of the urban-favouring political logic Lipton had earlier theorised. Michael Todaro (1969), though writing from within a distinct migration-theoretic tradition rather than urban bias theory proper, offers a closely related and frequently paired contribution, modelling how urban-biased wage and investment policy, by keeping urban expected incomes persistently above rural incomes even in the presence of urban unemployment, induces continued rural-to-urban migration that further entrenches urban concentration over time. Ashutosh Varshney (1993) subsequently offered an influential critical refinement, questioning Lipton's assumption of rural political weakness and demonstrating, through the Indian case, that rural populations can and do achieve substantial political mobilisation and extract significant policy concessions where organisational and electoral conditions permit. Terence Byres (1979) contributed an early and influential Marxist-oriented critique, arguing that Lipton's urban-rural class framework obscures the sharper class divisions, between landowners and landless labourers, for instance, that exist within the rural sector itself. The underlying principles of Urban Bias Theory centre on several interconnected propositions about the political economy of resource allocation in developing countries. First, the theory establishes that urban populations possess structural advantages in political organisation and collective action, geographic concentration, ease of mobilisation, and physical proximity to government, that translate into disproportionate capacity to influence policy relative to their share of the total population. Second, the theory identifies a recurring set of mechanisms through which urban bias manifests in practice: disproportionate infrastructure investment, roads, electricity, water, and, in the contemporary period, digital infrastructure, concentrated in cities; agricultural and commodity pricing policies that transfer value from rural producers to urban consumers; disproportionate government employment and administrative capacity located in urban centres; and disproportionate provision of health, education, and other public services in cities relative to the countryside. Third, the theory holds that urban bias is self-reinforcing, since the initial concentration of infrastructure and administrative capacity in a given city attracts further migration, investment, and administrative attention to that same city, deepening rather than correcting the imbalance over time. Fourth, the theory holds that resource allocation favouring a dominant city is not merely a historical artefact but a persistent structural feature of a developing country's political economy, reproduced across successive administrations rather than attributable to any single government's policy choices. Fifth, the theory posits that urban bias, notwithstanding its urban-favouring character, does not necessarily benefit the urban population as a whole, since it typically favours a narrower urban political, administrative, and commercial elite rather than the broader urban poor, including residents of the same city's informal settlements. The basic assumptions of Urban Bias Theory provide the analytical foundations upon which its explanatory framework rests. First, the theory assumes that political power in developing countries is substantially, though not exclusively, a function of a group's capacity for organisation and proximity to government rather than simply of population size or numerical majority. Second, the theory assumes that government resource-allocation decisions respond to organised political pressure rather than being determined solely by technocratic assessment of

economic efficiency or objective need. Third, the theory assumes that urban and rural, or, within a single metropolitan area, more and less commercially and politically salient, interests are sufficiently distinct that resource-allocation choices favouring one over the other impose a real rather than merely apparent cost on the disfavoured side. Fourth, the theory assumes that once an urban-favouring resource-allocation pattern is established, it persists across changes of political leadership, reflecting a structural rather than a merely personalistic or transient political dynamic. Critics of Urban Bias Theory have identified several important limitations. First, Byres (1979) argues that the theory oversimplifies real class dynamics by collapsing multiple, often opposed, rural and urban class interests into a single undifferentiated urban-versus-rural opposition, obscuring the extent to which rural landowning elites often share more in common with urban elites than with the rural poor, and, by direct analogy, the extent to which a single city's own population is internally stratified rather than uniformly advantaged. Second, Varshney (1993) argues that the theory's assumption of rural political weakness has been empirically overstated, demonstrating that rural populations in some developing-country contexts achieve substantial political mobilisation and successfully extract favourable policy concessions, a finding that cautions against treating urban bias as an automatic or uncontested outcome. Third, later applications of the theory, following Bates's (1981) own extension of it, indicate that urban bias operates unevenly across different developing-country contexts, with its explanatory power weaker in more decentralised or federally structured states than in the highly centralised states for which the theory was originally developed. Fourth, critics have argued that the theory's aggregate, city-level characterisation of urban advantage pays insufficient attention to intra-urban inequality, since the benefits typically attributed to urban bias are themselves highly unevenly distributed within a single city, such that residents of informal or peripheral urban settlements often fare little better than rural populations notwithstanding their formally urban location.

E-Governance

E-governance has been defined in a variety of overlapping ways across the literature. The World Bank (2016) defines it as the use of information and communication technologies by government agencies to improve efficiency, transparency, accountability, and citizen participation in public service delivery, while the United Nations Department of Economic and Social Affairs (2020) characterises it as the application of digital technologies to restructure the relationships between government, citizens, businesses, and other public-sector bodies. In a more operationally oriented formulation frequently cited in the Nigerian literature, e-administration is described as the transformation of traditionally paper-based office processes into fully electronic ones, with the overarching goal of creating a paperless working environment that boosts productivity and institutional performance (Ihemadu, 2025). Zoleh (2026) similarly frames digital governance as the deliberate use of digital platforms and tools to modernise the internal processes and external service interfaces of government ministries, departments, and agencies. Across these definitions, three recurring elements stand out: the substitution, whether partial or complete, of manual and paper-based procedures with electronic ones; the explicit institutional objectives of improved efficiency, transparency, and accountability that this substitution is meant to serve; and the extension of these changes beyond internal record-keeping into the actual interface between government and the citizens, businesses, and other government bodies it serves. For the purposes of this study, e-governance is understood as the deliberate application of information and communication technologies by the Ministry of Urban Development and Physical Planning to

receive, process, review, approve, monitor, and enforce development permit applications, in place of, or alongside, the manual procedures that have historically characterised each of these functions. The literature further distinguishes e-governance by stage of maturity rather than by definition alone, a distinction of direct relevance to a study concerned with the depth, and not merely the presence, of digital adoption within a single Ministry. Early-stage e-governance is typically confined to an informational function, in which government simply publishes information electronically without enabling any transaction; a second, transactional stage permits users to complete an entire process, such as submitting an application or making a payment, electronically from start to finish; and a third, transformational stage integrates previously separate government systems and processes so thoroughly that the underlying organisational structure of government itself is reshaped around the new digital capability rather than the digital capability being merely layered onto an unchanged bureaucracy. Nigeria's own national policy architecture for e-governance, anchored in the National Information Technology Development Agency and the National Information and Communication Technology Policy of 2012, was designed to move public institutions progressively through these stages, yet the empirical literature reviewed throughout this chapter suggests that most Nigerian planning ministries, the Ministry of Urban Development and Physical Planning very plausibly included, remain clustered at the informational or early transactional stage rather than having reached the transformational stage this study's six-function framework is ultimately designed to assess.

Placing Nigeria's experience within a wider international frame helps to clarify what a transformational stage of e-governance actually looks like in practice, and by extension how far the Ministry of Urban Development and Physical Planning still has to travel. Countries frequently cited as global e-governance leaders, among them Estonia, Singapore, and South Korea, share a common trajectory in which early digitisation of discrete government transactions was followed, often over one to two decades, by the deliberate integration of previously separate government databases around a single citizen or business identifier, enabling a level of automated, cross-agency service delivery that individually digitised transactions cannot achieve on their own. Estonia's X-Road data exchange layer, for instance, allows different government agencies' information systems to query one another automatically and securely, so that a citizen or business need supply a given piece of information to government only once, after which any agency legally entitled to that information can retrieve it directly rather than requiring the citizen to resubmit it. This interoperability principle bears directly on this study's fourth objective, since it implies that land title verification, one of the Ministry's constituent functions, could in principle be transformed less by digitising the Ministry's own internal records in isolation than by establishing a secure, automated data exchange between the Ministry and the land registry of the kind Estonia's model exemplifies, a possibility the empirical review later in this chapter examines against the specific evidence available for Rivers State.

Dimensions of E-Governance (Government-to-Citizen, Government-to-Business, Government-to-Government)

E-governance is commonly analysed along three interlocking relational dimensions, an analytical framework this study adopts directly from Diriyai, Amatari-Breford, and Imaitor (2026), each of which is treated separately below given its distinct relevance to different functions of the Ministry of Urban Development and Physical Planning.

(a) Government-to-Citizen (G2C). The Government-to-Citizen dimension comprises online application portals, publicly accessible status tracking, and open access to regulations and standards, and addresses the interface through which ordinary members of the public interact with government electronically. Diriyai, Amatari-Breford, and Imaitor (2026) situate this dimension as the one most directly responsive to the finding, replicated across their ten-state field survey, that eighty-four per cent of surveyed planning institutions offered applicants no means of tracking an application's progress online, obliging applicants to travel physically to a planning office merely to ask what stage their file had reached. The Government-to-Citizen dimension is, in this sense, less about the sophistication of the underlying technology than about the basic visibility it affords an applicant who has no other means of monitoring a bureaucratic process operating, from their perspective, as a closed system. Within the Ministry of Urban Development and Physical Planning, this dimension bears most directly on this study's first objective, building plan application and permit approval processing, since it is precisely at this point of first contact between an individual developer and the Ministry that the absence of online tracking, status notification, and application-history visibility is most acutely experienced, and where its introduction would be most immediately noticeable to the ordinary applicant.

(b) Government-to-Business (G2B). The Government-to-Business dimension comprises digital submission channels, automated compliance pre-screening tools, and integrated online payment systems designed specifically for developers, investors, and other commercial actors whose transactions with government tend to be more technically demanding and higher in value than those of individual citizens. Unlike the Government-to-Citizen dimension, which is oriented primarily toward transparency and convenience, the Government-to-Business dimension is oriented at least as much toward accuracy and risk reduction, since a commercial developer's building plan application typically involves considerably more technical documentation, architectural drawings, structural calculations, environmental impact assessments, than an individual homeowner's application, and errors or delays at this stage carry correspondingly larger financial consequences for the applicant. Automated compliance pre-screening, in which software checks a submitted application against zoning rules, building codes, and documentation completeness requirements before a human officer ever reviews it, is a Government-to-Business capability with particular relevance to this study's second objective, technical drawing vetting, since it is precisely this pre-screening function that the Ministry's Architecture and Works unit currently performs manually, one drawing at a time, without any software-assisted first pass to catch straightforward compliance failures before they reach a human reviewer's desk.

(c) Government-to-Government (G2G). The Government-to-Government dimension comprises automated inter-departmental workflow routing and the digital integration of previously separate government databases, such as a planning ministry's records and a land registry's records, and addresses the internal machinery of government that citizens and businesses rarely see directly but that determines how quickly and accurately their applications are processed once submitted. This dimension is, in an important sense, the most structurally demanding of the three, since it requires not merely that a single institution digitise its own processes but that two or more institutions, frequently governed by different statutes, reporting lines, and technical standards, agree to exchange data with one another in a secure and reliable fashion. Within the Ministry of Urban Development and Physical Planning, the Government-to-Government dimension bears most heavily on this study's third and fourth objectives, land-use

zoning and Geographic Information System-based spatial verification, and land title verification and document/record management respectively, since both functions depend, in principle, on the Ministry's ability to access and cross-reference data held by other government bodies, the Rivers State Ministry of Lands and Survey and the land registry chief among them, rather than on the Ministry's own internal digitisation alone. Chukwunweike, Egolum, and Igwe (2025) identify precisely this inter-agency dimension, rather than any single agency's internal technological capacity, as the most persistent obstacle to land registry digitisation across Nigeria's South-South geopolitical zone, a finding this study treats as directly relevant to explaining why land title verification might exhibit a weaker relationship between e-governance adoption and administrative effectiveness than functions, such as fee payment, that depend less heavily on inter-agency data exchange. A fourth dimension, Government-to-Employee, is increasingly recognised in the wider e-governance literature alongside the three reviewed above, encompassing the internal digital tools, staff scheduling systems, digital training platforms, internal messaging and case-assignment systems, through which a government institution manages its own workforce rather than its external stakeholders. Although Diriyai, Amatari-Breford, and Imaitor (2026) do not include this dimension explicitly in their five-pillar framework for physical planning e-governance, it is implicit in their treatment of workflow automation and staff capacity development as necessary components of a fully digitised planning authority, and it bears directly on this study's concern with how individual Ministry officials, not merely the citizens and businesses they serve, experience and adopt whatever electronic tools are introduced into each of the Ministry's six functions. Bibliometric analysis of Nigeria's information and communication technology research in public administration confirms that the Government-to-Citizen dimension has attracted disproportionately more scholarly attention than either the Government-to-Government or Government-to-Employee dimensions (Ishola, Maramura, & Gumbo, 2025), a skew this study's function-disaggregated design, which explicitly examines internal Ministry processes such as technical drawing vetting and inter-departmental land title verification and not merely citizen-facing permit applications, is positioned to help correct. Mapped onto the Ministry's six constituent functions in combined form, building plan application and permit approval, technical drawing vetting, and payment processing sit primarily within the Government-to-Citizen and Government-to-Business dimensions, land title verification sits at the intersection of the Government-to-Business and Government-to-Government dimensions, while zoning verification and field enforcement draw most heavily on the Government-to-Government dimension, in that they depend on the Ministry's internal integration with its own spatial data and with the land registry, and field enforcement additionally implicates the Government-to-Employee dimension in its dependence on how effectively individual field officers are equipped, trained, and coordinated. This composite mapping is significant for the present study because it implies that the four dimensions are not evenly distributed across the six functions this study examines, such that a Ministry that has made genuine progress on its Government-to-Citizen dimension, a functioning online application portal, say, cannot be assumed on that basis alone to have made comparable progress on its Government-to-Government dimension, inter-agency land title data exchange, since the two dimensions depend on largely distinct technical, legal, and institutional preconditions. This non-uniformity across dimensions supplies a further, dimension-based layer of justification, alongside the function-based justification already developed in the discussion of New Public Management theory, for this study's decision to examine e-governance adoption separately within each of the Ministry's six constituent functions rather than as a single undifferentiated institutional

characteristic.

Method

The study adopted a mixed-methods research design within a pragmatist paradigm, combining quantitative survey data with qualitative semi-structured interviews. The study was conducted primarily at the Rivers State Ministry of Urban Development and Physical Planning, with the Rivers State Ministry of Lands and Survey and the Greater Port Harcourt City Development Authority serving as comparator agencies. The study population comprised 3,692 persons across the three institutions, including relevant staff, registered professionals, applicants, and stakeholders. A quantitative sample of 361 respondents was determined using the Taro Yamane formula, with an additional 36 questionnaires allowed for possible attrition, resulting in 397 questionnaires for administration. Stratified random, convenience, and purposive sampling techniques were employed as appropriate to the respondent categories. Primary data were collected through structured questionnaires and semi-structured interviews, while relevant institutional records, legislation, and scholarly sources provided secondary data. The questionnaire contained six e-governance and six administrative efficiency/effectiveness subsections, measured on a four-point Likert scale. Validity was established through expert review, while reliability was confirmed through Cronbach's alpha, with an overall coefficient of 0.80. Quantitative data were analysed using descriptive statistics and Pearson correlation, while qualitative data were subjected to thematic analysis and integrated through joint displays. Ethical principles of informed consent, confidentiality, anonymity, voluntary participation, and data security were observed throughout the study.

Data Presentation

Response Rate

Table 1: Questionnaire Distribution and Response Rate by Study Site

Study Site	Administered	Retrieved	Excluded	Valid/Usable	Response Rate (%)
Ministry of Urban Development and Physical Planning	182	171	7	164	90.1
Rivers State Ministry of Lands and Survey	143	134	5	129	90.2
Greater Port Harcourt City Development Authority	72	67	2	65	90.3
Total	397	372	14	358	90.2

Source: Field Survey, 2026.

Table 1 shows that, of the three hundred and ninety-seven (397) questionnaires administered across the three study sites, three hundred and seventy-two (372), representing 93.7 per cent, were retrieved, and three hundred and fifty-eight (358), representing a usable response rate of 90.2 per cent, were found valid for analysis following data cleaning. Fourteen retrieved questionnaire were excluded: nine for a substantial proportion of missing responses across Sections B and C, and five for internally inconsistent response patterns, such as identical

responses marked for every item irrespective of content, consistent with the data-cleaning procedure set out in Section 3.10. The response rate was broadly consistent across all three study sites, ranging narrowly from 90.1 per cent at the Ministry to 90.3 per cent at the Greater Port Harcourt City Development Authority, a pattern indicating that non-response and data-quality issues were not concentrated at, or peculiar to, any single site, and that the resulting valid sample of 358 can reasonably be treated as broadly representative of the combined accessible population described in Section 3.3. An overall usable response rate exceeding 90 per cent substantially exceeds the response-rate thresholds conventionally regarded as adequate for survey-based social science research, and is considered more than sufficient for the descriptive and correlational analysis this study undertakes.

Data Analysis

Building Plan Application and Permit Approval Processing

Table 2: Frequency Distribution and Mean Ratings on E-Governance Adoption Building Plan Application and Permit Approval Processing

Questionnaires Item	SA (4)	A (3)	D (2)	SD (1)	N	Mean	Decision
1. Building plan applications can be submitted to the Ministry electronically.	62	144	117	35	358	2.65	Agreed
2. Applicants can track the status of their building plan application online.	59	140	120	39	358	2.61	Agreed
3. Payment for building plan applications can be made electronically.	69	150	110	29	358	2.72	Agreed
4. Staff of the Control Department have received training on the use of electronic tools for permit processing.	58	139	121	40	358	2.60	Agreed
5. The Ministry maintains a functional online portal for permit applications.	67	148	112	31	358	2.70	Agreed
Grand Mean					358	2.66	Agreed

Source: Field Survey, 2026. SA(4) = Strongly Agree, A(3) = Agree, D(2) = Disagree, SD(1) = Strongly Disagree; N = number of valid respondents.

Table 2 presents the item-by-item frequency distribution and mean ratings on e-governance adoption in building plan application and permit approval processing. Item 1, addressing whether building plan applications can be submitted electronically, recorded 62 respondents strongly agreeing and 144 agreeing, against 117 disagreeing and 35 strongly disagreeing, yielding a mean of 2.65. Item 2, addressing online status tracking, recorded 59 strongly agree and 140 agree against 120 disagree and 39 strongly disagree, yielding the lowest mean within this subsection at 2.61, though still within the agree range. Item 3, addressing electronic payment for building plan applications, recorded the highest agreement within this subsection, 69 strongly agree and 150 agree against 110 disagree and 29 strongly disagree, yielding a mean of 2.72. Item 4, addressing staff training on electronic tools, recorded 58 strongly agree and 139 agree against 121 disagree and 40 strongly disagree, yielding a mean of 2.60. Item 5, addressing the functionality of the Ministry's online portal, recorded 67 strongly agree and 148 agree against 112 disagree and 31

strongly disagree, yielding a mean of 2.70. Electronic payment (item 3) therefore represents the strongest-performing item and online status tracking (item 2) the weakest, suggesting that transactional capability has outpaced transparency-oriented capability within this function. The grand mean of 2.66 indicates that respondents, on average, agreed that e-governance has been adopted in this function.

Test of Hypothesis

Ho: There is no relationship between e-governance adoption in building plan application and permit approval processing and the level of development control administration in Rivers State.

Table 3: Pearson Correlation Analysis on E-Governance Adoption and Development Control Administration - Building Plan Application and Permit Approval Processing

	E-Governance Adoption	Development Administration	Control
E-Governance Adoption	1	0.540*	
Development Administration	0.540*	1	
Control			1

*Correlation is significant at the 0.05 level (2-tailed). Source: SPSS Statistics Output, 2026.

The above table 3 presents the correlation analysis on the extent and direction of the relationship between e-governance adoption and development control administration in building plan application and permit approval processing. The table shows a correlation coefficient of $r = 0.540$ with a corresponding significant/probability value of 0.000. The correlation is positive and strong. Since the Significant/Probability Value (PV) $0.000 < 0.05$ (critical value), we reject the null hypothesis and conclude there is a significant relationship between e-governance adoption and development control administration in this function.

Converting r-value to t-value using the formula:

$$T = r \times \sqrt{(n-2)} / \sqrt{(1-r^2)}$$

Where $r = 0.54$ and $n = 358$, we get:

$$T = 0.54 \times \sqrt{(358-2)} / \sqrt{(1-0.54^2)}$$

$$0.54 \times \sqrt{356} / \sqrt{0.708}$$

$$0.54 \times 18.868 / 0.842$$

$$10.189 / 0.842$$

$$12.11$$

With 356 degrees of freedom (df) and an alpha level of 0.05, the critical t-value is 1.967. Since the calculated t-value (12.11) is greater than the critical t-value (1.967), we reject the null hypothesis and conclude that there is a statistically significant, positive and strong, relationship between e-governance adoption and development control administration in building plan application and permit approval processing in Rivers State.

Qualitative Findings

This function's qualitative evidence is drawn from a single key informant, the Head of the Ministry's Control Department, the unit statutorily responsible for building plan application and permit approval processing. The Head of the Control Department described adoption within this function as demand-led rather than institutionally driven, observing that "most large developers now expect to submit and pay online; it is smaller, individual applicants who still prefer to come in person" (Head of Control Department, personal communication, 2026). The same informant

explained that a manual backup register has been retained alongside the electronic system, noting that "we introduced online submission about three years ago, and adoption has grown steadily, but we still keep a manual register running in parallel because not everyone trusts the system yet" (Head of Control Department, personal communication, 2026), a statement that corroborates this function's item-level finding that online status tracking (item 2, Table 1) trails behind other, more transactional items. On the question of what has driven the digitisation that has occurred, the informant attributed the initial impetus specifically to commercial pressure, stating that "it was really the big construction firms who pushed us to accept electronic payment first; they did not want to keep sending staff to queue at the bank" (Head of Control Department, personal communication, 2026). The informant further observed that this pressure produced a cascading effect on smaller applicants, remarking that "once two or three major developers started insisting on it, other applicants gradually followed" (Head of Control Department, personal communication, 2026). Read together, these two narratives describe a demand-led rather than a supply-led digitisation trajectory: adoption within this function appears to have been pulled forward by the commercial interests of larger, better-resourced applicants rather than pushed by an internal Ministry digitisation strategy, a pattern this study's discussion in Section 4.3.1 connects to Urban Bias Theory's account of commercially salient functions attracting disproportionate investment.

Discussion of Findings

Building Plan Application and Permit Approval Processing

This study found a strong and statistically significant relationship between e-governance adoption and the level of development control administration in building plan application and permit approval processing ($r = 0.54$, $t = 12.11$), the second strongest of the six relationships tested. Descriptively, respondents recorded a grand mean of 2.66 on e-governance adoption and 2.52 on development control administration for this function, both within the agree range, with electronic payment for building plan applications (item 3, Table 4.3) recording the strongest individual item score and online status tracking (item 2) the weakest. The qualitative findings, drawn from the Head of the Ministry's Control Department, corroborated this quantitative picture, describing a demand-led digitisation trajectory in which larger commercial developers have driven adoption of electronic submission and payment, while smaller individual applicants continue to prefer in-person engagement, and in which a manual backup register persists alongside the electronic system. Theoretically, this finding is best explained through Urban Bias Theory. Permit application and approval is the function most directly and visibly implicated in developer-driven commercial transactions, and the qualitative finding of demand-led, developer-concentrated adoption is precisely the mechanism through which Urban Bias Theory predicts commercially salient functions will attract disproportionate digitisation investment relative to functions of comparable technical complexity but lesser commercial visibility. The Unified Theory of Acceptance and Use of Technology offers a complementary, individual-level account of the same pattern: the informant's description of growing staff and applicant comfort with the electronic portal reflects precisely the performance-expectancy and social-influence mechanisms the theory identifies as driving adoption once early, commercially motivated users demonstrate a system's usefulness to their peers. This finding aligns with, and is consistent with, several studies reviewed in Chapter Two. Odekunle and Hamed (2021) found that Lagos State's electronic Planning Permit platform produced measurable processing-time and satisfaction gains once operational, a pattern this study's own strong, statistically significant relationship directly

corroborates at a different Nigerian state ministry. Diriyai, Amatari-Breford, and Imaitor's (2026) ten-state survey similarly found that citizen-facing permit functions attract the most consistent digitisation investment among Nigerian planning authorities relative to more internally oriented functions, a pattern this study's own cross-function comparison, in which permit approval ranks among the strongest relationships tested, reproduces at the level of a single Ministry.

This finding nonetheless diverges from the more cautious picture painted by Nnaji and Nri (2022), who found that the relationship between electronic governance and public-sector service delivery across Nigeria's south-eastern states was substantially weakened by inadequate infrastructure, poor funding, and weak capacity-building, such that the relationship they documented, while positive, remained comparatively modest. This study's finding of a strong, rather than modest, relationship for this specific function suggests either that the Ministry's permit-approval infrastructure is comparatively better resourced than the civil-service functions Nnaji and Nri examined, or that commercially driven demand of the kind this study's qualitative findings document is capable of overcoming infrastructural constraints that weaken adoption elsewhere. The finding also diverges from Enisan and Nicolas's (2023) baseline finding that no online platform for building plan approval existed at all in Ondo State, indicating that Rivers State's Ministry has progressed considerably further along the digitisation trajectory than at least one comparable Nigerian state ministry.

Summary of Findings

With respect to the objective, the study found a strong, statistically significant relationship between e-governance adoption and the level of development control administration in building plan application and permit approval processing ($r = 0.54$, $t = 12.11$). Descriptive analysis recorded grand means of 2.66 and 2.52 respectively, and qualitative findings described a demand-led digitisation trajectory driven principally by larger commercial developers, with smaller individual applicants lagging behind and a manual backup register retained alongside the electronic system.

Conclusion

The study concluded that e-governance adoption had a significant and positive relationship with the level of development control administration in building plan application and permit approval processing in Rivers State. The findings showed that respondents agreed that electronic submission, online application tracking, electronic payment, staff training, and the Ministry's online permit portal had been adopted, with a grand mean of 2.66. Electronic payment recorded the highest mean, while online status tracking recorded the lowest, indicating that transactional digital services had developed more strongly than transparency-oriented services. The hypothesis test produced a strong positive correlation ($r = 0.540$), with a calculated t-value of 12.11 exceeding the critical value of 1.967 at 356 degrees of freedom and the 0.05 significance level. The null hypothesis was therefore rejected. Qualitative evidence further indicated that adoption had been largely demand-driven, particularly by larger commercial developers, while smaller applicants continued to favour physical processes. The continued use of a manual backup register also indicated that full transition to digital processing had not yet been achieved. Overall, e-governance adoption had contributed meaningfully to development control administration, although accessibility, trust, and digital adoption gaps remained.

Recommendation

Arising directly from the findings summarised and the conclusions drawn this study makes the recommendations that ministry of Urban Development and Physical Planning should extend targeted outreach and simplified onboarding support to individual and small-scale permit applicants specifically, since the finding that adoption in building plan application and permit approval processing has been demand-led and developer-concentrated indicates that smaller applicants require deliberate institutional effort, rather than passive platform availability alone.

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