

DIGITAL OFFICE STRATEGY AND ADMINISTRATIVE SERVICE DELIVERY IN HIGHER EDUCATION INSTITUTIONS IN RIVERS STATE, NIGERIA

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ABSTRACT

This study investigated the relationship between digital office strategy and administrative service delivery in higher education institutions in Rivers State, Nigeria. Grounded in the Technology Acceptance Model (Davis, 1989) and the Resource-Based View (Barney, 1991), the study operationalised digital office strategy in terms of digital workflow automation and cloud-based information systems. Administrative service delivery was measured through service responsiveness and process efficiency. A correlational survey design was adopted. The population comprised 862 administrative staff drawn from six public higher education institutions in Rivers State. Using Taro Yamane's formula, a sample of 273 respondents was determined and selected through stratified random sampling. Data were collected via a structured questionnaire with a Cronbach alpha reliability coefficient of 0.87. Pearson Product-Moment Correlation Coefficient (PPMC) was used to test two null hypotheses at the 0.05 level of significance. Results revealed significant positive relationships between digital workflow automation and service responsiveness ($r = 0.681, p < 0.05$), and between cloud-based information systems and process efficiency ($r = 0.643, p < 0.05$). The study concludes that digital office strategy is a strong predictor of administrative service delivery in higher education institutions in Rivers State. It is recommended that university administrators prioritise the adoption and integration of digital workflow automation and cloud-based information systems to enhance service responsiveness and process efficiency.

Keywords: Digital Office Strategy, Administrative Service Delivery, Digital Workflow Automation, Cloud-Based Information Systems, Service Responsiveness, Process Efficiency, Higher Education

INTRODUCTION

The global landscape of higher education administration is undergoing a profound and unprecedented transformation, driven by the pervasive adoption of digital technologies that are fundamentally restructuring how institutions organise, manage, and deliver administrative services. Across the world, higher education institutions are increasingly recognising that digital office strategies are not merely supplementary tools but constitute the foundational architecture upon which efficient administrative service delivery must be built (Verhoef et al., 2021; Vial, 2019). In the African context, and particularly within Nigeria's tertiary education sector, this recognition has gained momentum in recent years, as institutions grapple with the twin imperatives of meeting

growing stakeholder demands and optimising institutional operations amid resource constraints (Alikornwo, Adiele, & Dornanu, 2025; Nwachukwu & Ohalete, 2024). Higher education institutions in Rivers State, Nigeria, serve a large and diverse population of students, staff, and administrative stakeholders whose expectations of service quality, responsiveness, and information accessibility have been substantially elevated by the digital revolution that has swept across all sectors of human endeavour. The adoption of digital office strategies, which encompass the deployment of digital workflow automation, cloud-based information systems, electronic document management, and integrated service platforms, has been widely acknowledged as a critical driver of institutional effectiveness and administrative excellence (Alikornwo et al., 2025; Gbafah, 2025; Paul, 2024).

In Nigeria's public higher education environment, administrative service delivery has historically been characterised by bureaucratic inertia, paper-based documentation processes, manual workflow management, and delayed response cycles that collectively impede institutional efficiency and erode stakeholder confidence (Chukwuemeka, Okeke, & Onwuchekwa, 2018; Nwosu, Ugwu, & Adeolu-Akande, 2024). Rivers State, as one of the most economically significant and educationally vibrant states in the South-South geopolitical zone of Nigeria, is home to several public universities, polytechnics, and colleges of education whose administrative service infrastructure remains, to a considerable degree, underpinned by legacy systems and analogue processes that are incapable of meeting contemporary service delivery standards (Orisah-Godfrey & Modey, 2024; Williams & Atairet, 2025). The imperative for digital transformation in the administrative operations of these institutions is therefore not merely academic but deeply practical, as the quality of administrative services directly affects institutional reputation, staff productivity, student satisfaction, and the ability of the institutions to attract and retain high-calibre personnel and learners (Gbafah, 2025; Obara, 2025;). It is against this backdrop that the adoption of deliberate and well-structured digital office strategies becomes a matter of strategic urgency for higher education administrators in Rivers State and beyond.

Digital office strategy, as a construct, refers to the planned and systematic integration of digital technologies into the operational, communicative, and administrative processes of an organisation with the deliberate intent of enhancing performance, accessibility, and service quality (Fitzgerald, 2013; Vial, 2019; Verhoef et al., 2021). Within the higher education context, this translates into the use of digital workflow automation systems that eliminate redundant manual steps and accelerate service cycles, as well as cloud-based information systems that enable real-time access to institutional data and facilitate seamless coordination among administrative units (Alikornwo et al., 2025; Alikornwo, Adiele, & Onyebuanyi, 2026). Empirical evidence from global studies consistently indicates that higher education institutions that have adopted comprehensive digital office strategies demonstrate markedly superior levels of administrative service delivery compared to institutions still relying on traditional manual approaches (Nwachukwu & Ohalete, 2024; Paul, 2024; Wahyudiono et al., 2024). In the Nigerian setting, however, the empirical evidence linking specific dimensions of digital office strategy to measured outcomes of administrative service delivery remains thin, particularly at the sub-national level, thereby creating an urgent and academically significant gap that this study seeks to address within the Rivers State context.

The present study is motivated by the observable disconnect between the growing scholarly consensus on the value of digital office strategy and the persistent administrative challenges faced by higher education institutions in Rivers State, Nigeria. While several Nigerian scholars have examined various dimensions of digital transformation and administrative effectiveness (Alikornwo et al., 2025; Gbafah, 2025; Orisah-Godfrey & Modey, 2024; Obara, 2025), the specific interface between digital office strategy, dimensioned through digital workflow automation and cloud-based information systems, and administrative service delivery, measured through service responsiveness and process efficiency, in higher education institutions in Rivers State, has not been rigorously

examined. This study therefore fills this gap by providing empirical evidence on the nature and strength of these relationships, with a view to informing policy and administrative practice in the Nigerian higher education system. The study is organised into sections covering the literature review, methodology, results, discussion, conclusion, and recommendations.

Statement of the Problem

Administrative service delivery in higher education institutions in Rivers State, Nigeria, is confronted with systemic inefficiencies that are largely attributable to the inadequate adoption of digital office strategies across institutional administrative units. Observations in these institutions reveal pervasive reliance on manual documentation processes, fragmented information management systems, slow response cycles for administrative requests, and a general absence of the workflow automation capabilities that are now considered standard practice in comparable institutions globally (Chukwuemeka et al., 2018; Nwosu et al., 2024). The consequences of these deficiencies are manifold, including delayed processing of student records and examination results, slow administrative response to staff and student queries, loss of institutional documents, and an overall erosion of the quality and reliability of administrative services that stakeholders rightly expect from institutions of higher learning (Orisah-Godfrey & Modey, 2024; Williams & Ataire, 2025; Gbafah, 2025).

Notwithstanding the growing body of national and international literature affirming the positive relationship between digital transformation initiatives and improved institutional performance (Alikornwo et al., 2025; Verhoef et al., 2021; Wahyudiono et al., 2024), there is a conspicuous absence of empirical studies that specifically examine the relationship between digital office strategy, operationalised through digital workflow automation and cloud-based information systems, and administrative service delivery, measured through service responsiveness and process efficiency, within the Rivers State higher education context. Most existing Nigerian studies have either focused on broader dimensions of e-governance (Chukwuemeka et al., 2018; Nwosu et al., 2024), digital literacy (Alikornwo et al., 2026), or general organisational performance, without isolating the specific contribution of digital office strategy to administrative service delivery in the higher education sub-sector. This research gap constitutes both a theoretical and practical lacuna that this study is designed to fill.

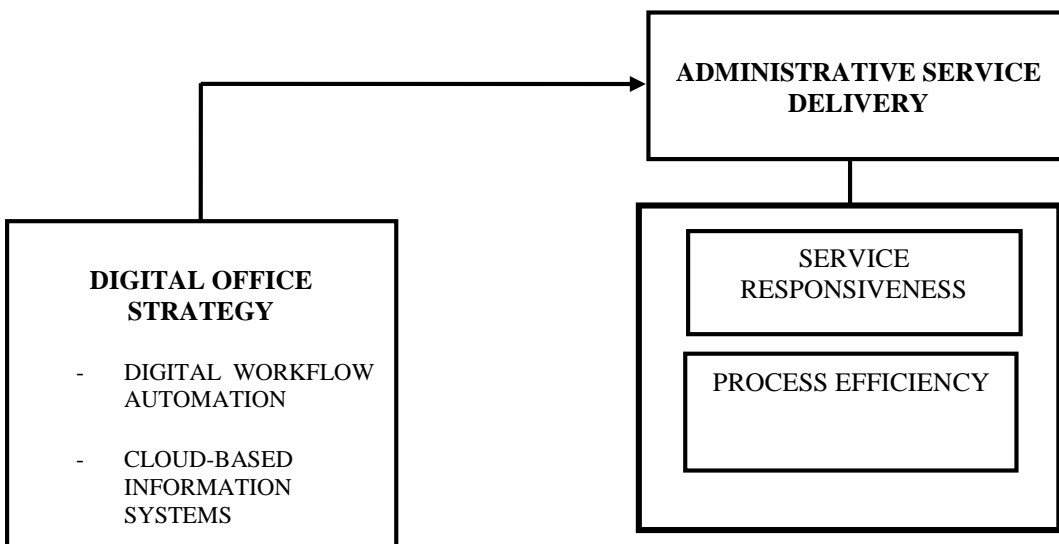


Figure 1: Conceptual framework Digital Office Strategy and Administrative Service Delivery of Higher Education Institutions in Rivers State, Nigeria

2. LITERATURE REVIEW

Conceptual Review

Digital Office Strategy

The concept of digital office strategy occupies a central position in contemporary organisational management discourse, particularly as institutions across all sectors navigate the imperatives of the Fourth Industrial Revolution. Digital office strategy refers to the coherent, intentional, and institution-wide plan through which digital technologies are integrated into office and administrative operations for the purpose of improving performance, communication, information management, and service delivery (Vial, 2019; Paul, 2024). It encompasses a broad spectrum of technological interventions, including but not limited to the automation of workflows, deployment of cloud computing platforms, electronic document and records management systems, digital communication tools, enterprise resource planning systems, and decision support technologies that collectively transform the administrative environment from a paper-intensive, time-consuming, and error-prone setting to a streamlined, efficient, and responsive one (Orisah-Godfrey, 2026; Fitzgerald, 2013; Verhoef et al., 2021; Wahyudiono et al., 2024).

In the higher education context, digital office strategy is particularly relevant because universities and polytechnics are multi-stakeholder organisations whose administrative operations must simultaneously serve the needs of students, academic staff, non-academic staff, regulatory bodies, and the broader public. The effective coordination and delivery of services across these diverse constituencies require robust digital infrastructure, automated processes, and information systems that are accessible, reliable, and secure (Alikornwo et al., 2025; Nwachukwu & Ohalete, 2024). Alikornwo et al. (2025) established that digital transformation, conceived as a strategic priority rather than a reactive response, produces significantly better administrative decision-making outcomes in government ministries and agencies in Rivers State. These findings align with global evidence reviewed by Vial (2019) and Verhoef et al. (2021), both of whom emphasise that digital strategy must be embedded in the governance framework of institutions to yield sustainable performance improvements.

Digital Workflow Automation

Digital workflow automation constitutes one of the most impactful dimensions of digital office strategy, referring to the use of software systems and digital tools to execute, route, monitor, and complete administrative tasks with minimal or no manual intervention (Nwinyokpugi & Alikornwo, 2022; Fitzgerald, 2013). In the higher education administrative context, workflow automation encompasses the automated processing of student admission documents, examination scheduling, staff leave and payroll management, procurement processes, and the generation of institutional reports and correspondence, among numerous other routine administrative tasks. The automation of these processes eliminates the delays and errors inherent in manual handling while creating transparent audit trails that enhance institutional accountability (Nwachukwu & Ohalete, 2024; Vial, 2019).

Research has consistently demonstrated the positive impact of workflow automation on service delivery outcomes in educational and public sector organisations. Williams and Atairet (2025) found that digitalization significantly enhanced administrative service delivery in Akwa Ibom State College of Education, with workflow automation emerging as a key driver of service improvement. These local findings are reinforced by the global evidence presented by Wahyudiono et al. (2024), who argued that digital technologies that automate routine administrative functions demonstrably improve organisational learning, innovation, and resilience.

Cloud-Based Information Systems

Cloud-based information systems represent a second major dimension of digital office strategy, encompassing the deployment of computing resources, data storage, and application services over the internet rather than on local institutional servers (Paul, 2024; Verhoef et al., 2021). In higher education institutions, cloud computing enables administrative units to access, process, and share institutional data in real time from any location, facilitating collaborative administration, reducing infrastructure costs, and enhancing the scalability and reliability of information management systems (Alikornwo et al., 2026; Nwachukwu & Ohalete, 2024). Cloud-based platforms for student information management, financial management, human resource management, and institutional communication have become integral to the administrative architecture of leading universities globally, and their adoption in Nigerian higher education institutions represents a critical pathway to improved service delivery (Orisah-Godfrey & Modey, 2024; Chukwuemeka et al., 2018).

The empirical literature on cloud-based information systems in educational administration consistently affirms their positive impact on performance and service quality. Obara (2025) found that information resource planning, which fundamentally relies on cloud and digital infrastructure, significantly improves organisational agility in complex administrative environments. Internationally, Paul (2024) concluded in a comprehensive review that cloud-enabled digital transformation creates persistent competitive advantages for institutions in higher education through enhanced information accessibility, process integration, and stakeholder responsiveness. These findings collectively position cloud-based information systems as an essential element of any credible digital office strategy for higher education administration in Nigeria.

Administrative Service Delivery

Administrative service delivery in higher education institutions refers to the systematic, timely, and efficient provision of administrative services to students, staff, and other institutional stakeholders through well-structured processes, competent personnel, and appropriate technological tools (Williams & Ataire, 2025; Orisah-Godfrey & Modey, 2024). It encompasses a wide range of functions, including student registration and records management, examination administration, staff payroll and human resource management, procurement and financial services, correspondence management, and the management of institutional information and communication channels. The quality of administrative service delivery is increasingly regarded as a critical institutional performance indicator, directly influencing student satisfaction, staff morale, institutional reputation, and regulatory compliance (Nwachukwu & Ohalete, 2024; Chiana & Okpara, 2023; Gbafah, 2025). In the Nigerian higher education context, administrative service delivery has been a subject of considerable scholarly concern due to the persistent challenges of inefficiency, delayed responses, information loss, and the general unresponsiveness of administrative systems that characterise many public universities and polytechnics (Alikornwo & Nwinyokpugi, 2025; Chukwuemeka et al., 2018). These challenges are structurally linked to the limited adoption of digital tools and strategies, the predominance of manual and paper-based administrative processes, inadequate digital capacity among administrative staff, and the absence of integrated information management systems (Orisah-Godfrey & Alikornwo, 2026; Nwosu et al., 2024).

Service Responsiveness

Service responsiveness, as a measure of administrative service delivery, refers to the speed, accuracy, and willingness with which an institution's administrative system responds to the needs, inquiries, and requests of its stakeholders (Williams & Ataire, 2025; Chiana & Okpara, 2023). It encompasses the promptness of information provision, the timeliness of administrative decisions, the accessibility of administrative personnel and digital platforms, and the overall agility of the

administrative system in adapting to changing stakeholder needs and institutional demands. Service responsiveness is directly tied to the capacity of administrative systems to process requests without unnecessary delays, errors, or bureaucratic obstacles, and it serves as a key differentiator between well-administered and poorly administered higher education institutions (Gbafah, 2025; Obara, 2025).

Empirical studies have consistently linked digital transformation interventions to improved service responsiveness in educational and public sector organisations. These findings are consistent with the international literature reviewed by Alikornwo et al. (2025), Alikornwo and Nwinyokpugi (2025), Paul (2024), Nwinyokpugi and Alikornwo, (2022) and Vial (2019), all of which position digital technology adoption as the primary lever for enhancing institutional responsiveness.

Process Efficiency

Process efficiency, as a second measure of administrative service delivery, refers to the extent to which administrative processes are executed with minimum waste of time, resources, and effort while achieving the desired quality and accuracy of outputs (Vial, 2019; Nwachukwu & Ohalete, 2024). In higher education administration, process efficiency encompasses the streamlining of document processing cycles, the elimination of redundant procedural steps, the reduction of errors and rework in administrative outputs, the optimal utilisation of administrative personnel, and the effective management of institutional information and records (Alikornwo et al., 2025; Obara, 2025). Process efficiency is not merely an operational objective but a strategic outcome that directly affects institutional productivity, cost management, and the overall quality of educational service provision (Obara & Alikornwo, 2025; Chinyere, Orisah-Godfrey & Nwogu, 2024).

The literature consistently demonstrates that the adoption of digital office tools and strategies is among the most effective means of achieving and sustaining process efficiency in higher education administration. Alikornwo, Adiele, and Dornanu (2025) found that digital filing systems, a key element of digital office strategy, significantly enhanced data security and information management success in Rivers State government institutions, outcomes that are fundamentally linked to process efficiency. Obara (2025) established in studies of Nigerian organisations that strategic information management frameworks, which are enabled by digital infrastructure, demonstrably improve organisational agility and operational efficiency. Internationally, Wahyudiono et al. (2024) conducted empirical research demonstrating that digital transformation substantially improved the process efficiency and adaptability of organisations, with automation and cloud-based systems identified as the leading drivers of these improvements. These findings form the empirical basis for the relationship examined in this study.

Theoretical Framework

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), originally formulated by Davis (1989) and subsequently extended by Davis, Bagozzi, and Warshaw (1989), constitutes a foundational theoretical lens for understanding how and why individuals and organisations adopt and use digital technologies in their operational environments. TAM proposes that the actual use of any technology is determined by two primary cognitive variables, namely perceived usefulness and perceived ease of use, with perceived usefulness referring to the extent to which users believe that a given technology will enhance their task performance, and perceived ease of use referring to the degree to which the use of a technology is perceived as free of cognitive effort (Davis, 1989). These two perceptions directly shape users' attitudes toward technology use, which in turn determines their behavioural intention to use the technology, and ultimately their actual use behaviour (Davis, Bagozzi, & Warshaw, 1989; Paul, 2024).

TAM is particularly relevant to the present study because it provides a robust framework for understanding why digital office strategies, including workflow automation and cloud-based information systems, are adopted or resisted by administrative staff in higher education institutions in Rivers State. The model predicts that when administrative staff perceive digital workflow tools and cloud platforms as useful and easy to use, they are more likely to adopt these technologies, leading to improved administrative behaviours and service delivery outcomes (Vial, 2019; Wahyudiono et al., 2024). Empirical studies in the Nigerian context have applied TAM to explain technology adoption in educational and administrative settings, with consistent findings affirming the central roles of perceived usefulness and ease of use in determining digital adoption (Alikornwo et al.; Nwachukwu & Ohalete, 2024). The model's applicability to this study is further reinforced by its widespread use in international higher education technology adoption research, where it has been employed to explain the uptake of cloud computing, enterprise resource planning systems, and digital workflow platforms in university administrative environments (Paul, 2024; Verhoef et al., 2021).

Extensions of TAM by Venkatesh and colleagues (Venkatesh & Bala, 2008) have further enriched the model by incorporating additional constructs such as computer self-efficacy, perceived enjoyment, and subjective norms, thereby capturing the social and contextual dimensions of technology acceptance that are particularly relevant in the resource-constrained and socially embedded administrative environments of Nigerian higher education institutions. The present study draws on TAM to theorise the relationship between digital office strategy adoption and administrative service delivery, arguing that the degree to which administrative staff in Rivers State higher education institutions perceive digital workflow automation and cloud-based information systems as useful and easy to use will significantly moderate the impact of these strategies on service responsiveness and process efficiency.

Resource-Based View (RBV)

The Resource-Based View (RBV), pioneered by Barney (1991) and subsequently developed by numerous scholars including Penrose (1959) and Wernerfelt (1984), offers a complementary theoretical perspective that situates digital office strategy within the broader framework of institutional competitive advantage and resource management. RBV proposes that an organisation's sustained competitive advantage is derived from its possession and effective deployment of resources and capabilities that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). In the context of higher education administration, digital technologies, including workflow automation systems and cloud-based information platforms, constitute strategic resources that, when effectively deployed, generate institutional capabilities that are difficult for competitors to replicate and that directly drive superior service delivery performance (Paul, 2024; Wahyudiono et al., 2024).

Applied to the higher education context in Rivers State, RBV suggests that institutions that have invested in robust digital office infrastructure and cultivated digital competencies among their administrative staff possess a distinctive resource advantage that directly translates into superior administrative service delivery. The work of Obara (2025) on information resource planning and organisational agility in Nigerian institutions provides direct empirical support for this theoretical proposition, demonstrating that organisations which view information management systems as strategic assets rather than operational necessities achieve significantly better performance outcomes. Similarly, Alikornwo et al. (2025) implicitly invoked RBV in demonstrating that digital transformation capabilities in Rivers State government institutions significantly enhanced information management outcomes, outcomes that are enabled by the possession of digital resources. Gbafah (2025) further reinforced the RBV perspective by demonstrating that the

possession and effective use of modern office automation resources significantly enhanced manager productivity in commercial organisations in Rivers State. The present study anchors the relationship between digital office strategy and administrative service delivery in RBV, arguing that digital workflow automation and cloud-based information systems represent critical institutional resources whose strategic deployment explains variations in service responsiveness and process efficiency across higher education institutions in Rivers State.

Empirical Review

The empirical literature on digital office strategy and administrative service delivery is rich, diverse, and growing, with substantial contributions from both the global scholarly community and Nigerian researchers whose work is directly relevant to the present study. Alikornwo et al. (2025), examined the relationship between digital transformation, dimensioned through records automation and digital filing systems, and information management success in Rivers State government MDAs. Using a correlational survey design with 112 respondents and Pearson Product-Moment Correlation analysis, the study established significant positive relationships ($r = 0.652$ for records automation and information accessibility; $r = 0.590$ for digital filing systems and data security). These findings directly support the hypothesis that digital office strategies enhance administrative service outcomes and provide a strong empirical precedent for the present study.

Alikornwo et al. (2026), in a study examining information management in digitally enabled offices in Rivers State government MDAs, confirmed that digital office administration significantly and positively predicts information management success, with administrative productivity demonstrably enhanced by the adoption of digital tools and platforms. This study is particularly significant as it focuses directly on the Rivers State administrative context and employs a rigorous empirical methodology consistent with the present study.

Williams and Ataire (2025), examined digitalization and administrative service delivery in Akwa Ibom State College of Education, Nigeria, and found significant positive relationships between digitalisation dimensions and service delivery outcomes. The proximity of this study in geography, institutional type, and thematic focus to the present study makes its findings particularly instructive. Obara (2025), examined information resource planning and organisational agility in Nigerian oil and gas organisations, established that digital information management frameworks significantly enhanced organisational agility, a construct closely related to administrative service responsiveness and process efficiency. These findings collectively build a robust empirical foundation for the present investigation.

Internationally, Vial (2019) conducted a comprehensive review of 282 articles on digital transformation, establishing that digital strategy implementation produces systematic improvements in organisational performance, service delivery, and stakeholder responsiveness across diverse sectoral contexts. Paul (2024) similarly synthesised a vast body of literature on digital transformation to demonstrate its multidimensional impact on consumer behaviour, organisational processes, and competitive positioning, with higher education institutions among the primary beneficiaries of digital transformation. Wahyudiono et al. (2024) provided empirical evidence from Spanish SMEs demonstrating that digital technologies significantly enhanced organisational learning, innovation, and resilience, outcomes that are foundational to improved service delivery. Verhoef et al. (2021) argued in a widely cited study that digital transformation is reshaping organisational processes and customer-facing services across all sectors, with cloud computing and automation identified as the most transformative technological dimensions. These international studies collectively reinforce the theoretical and empirical validity of the present study's research propositions.

Nwachukwu and Ohalete (2024) examined innovative methods of managing tertiary institutions in Nigeria and established that digital management innovations significantly enhanced institutional

performance and service delivery quality. Chukwuemeka et al. (2018) investigated the correlation between e-governance and service quality in Nigerian public institutions, finding significant positive relationships that confirm the central role of digital strategy in improving public service delivery. Nwosu et al. (2024) conducted a comprehensive review of e-governance and public service delivery in Nigeria, establishing that e-governance initiatives significantly improved service delivery outcomes across government institutions but noting that the higher education sector remains relatively underexplored in this literature. These findings collectively support the theoretical framework and research hypotheses of the present study while simultaneously affirming the research gap that motivates the investigation.

In line with the empirical and theoretical review, the following two null hypotheses were formulated to guide this study:

H₀₁: There is no significant relationship between digital workflow automation and service responsiveness in higher education institutions in Rivers State, Nigeria.

H₀₂: There is no significant relationship between digital workflow automation and process efficiency in higher education institutions in Rivers State, Nigeria.

H₀₃: There is no significant relationship between cloud-based information systems and service responsiveness in higher education institutions in Rivers State, Nigeria.

H₀₄: There is no significant relationship between cloud-based information systems and process efficiency in higher education institutions in Rivers State, Nigeria.

3. METHODOLOGY

This study adopted a correlational survey research design, which was considered appropriate given the study's objective of establishing the nature and strength of the relationships between digital office strategy, operationalised through digital workflow automation and cloud-based information systems, and administrative service delivery, measured through service responsiveness and process efficiency, in higher education institutions in Rivers State, Nigeria. The correlational design, as described by Creswell (2014), is suitable for studies that seek to quantify the degree of association between two or more variables without manipulating either of them, thereby preserving the natural administrative environment in which the variables exist and operate. The population of the study comprised 862 administrative staff across six purposively selected public higher education institutions in Rivers State, namely Rivers State University, Ignatius Ajuru University of Education, University of Port Harcourt (Choba Campus Administrative Unit), Captain Elechi Amadi Polytechnic, Ken Saro-Wiwa Polytechnic, and Rivers State College of Health Science and Management Technology. These institutions were selected based on their status as publicly funded higher education institutions operating under state and federal mandates in Rivers State. Using Taro Yamane's (1967) sample size determination formula at a 95% confidence level and 5% error margin, a sample size of 273 respondents was determined. Stratified random sampling was subsequently applied to ensure proportional representation from each of the six institutions, with sub-samples drawn from administrative departments including the registry, bursary, works and services, academic affairs, and student affairs units. Data were collected using a structured, researcher-developed questionnaire titled "Digital Office Strategy and Administrative Service Delivery Questionnaire" (DOSASDQ), which comprised 40 Likert-scale items arranged in four clusters corresponding to the study's four key variables, rated on a four-point scale of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). The instrument was face and content validated by three experts in Office and Information Management and one expert in Measurement and Evaluation. The reliability of the instrument was established through a pilot study involving 25 administrative staff from institutions not included in the main study, and a Cronbach alpha coefficient of 0.87 was obtained, indicating high internal consistency. Data collection was conducted over a

period of six weeks. Of the 273 questionnaires distributed, 261 were retrieved and found valid for analysis, representing a 95.6% retrieval rate. Descriptive statistics, including means and standard deviations, were used to answer the research questions, while Pearson Product-Moment Correlation Coefficient (PPMC) was used to test the two null hypotheses at a 0.05 level of significance, with the aid of Statistical Package for Social Sciences (SPSS) version 25.0.

4. RESULTS

Hypothesis Testing

Table 1: Pearson Correlation between Digital Workflow Automation and Administrative Service Delivery

Variable	N	Mean	r	p-value
Digital Workflow Automation	261	3.42	0.681	0.000
Service Responsiveness	261	3.38		
Process Efficiency	261	3.34		

* Correlation is significant at the 0.05 level (2-tailed)

The results presented in Table 1 reveal that the Pearson correlation coefficient between digital workflow automation and administrative service delivery is $r = 0.681$, with a corresponding p-value of 0.000, which is less than the 0.05 level of significance adopted for this study. The null hypotheses (H01 & H02) which states that there is no significant relationship between digital workflow automation and service responsiveness in higher education institutions in Rivers State, Nigeria, and there is no significant relationship between digital workflow automation and process efficiency in higher education institutions in Rivers State, Nigeria, are therefore rejected. The findings indicate a significant, positive, and moderately strong relationship between digital workflow automation and administrative service delivery. This means that higher levels of digital workflow automation adoption in the administrative units of higher education institutions in Rivers State are associated with significantly higher levels of service responsiveness and process efficiency experienced by institutional stakeholders. The mean scores of 3.42 for digital workflow automation, 3.38 for service responsiveness and 3.35 for process efficiency further indicate that both variables were perceived at a relatively high level by the respondents, suggesting that the digital workflow tools available, where deployed, have meaningful positive effects on administrative responsiveness and efficiency.

Table 2: Pearson Correlation between Cloud-Based Information Systems and Administrative Service Delivery

Variable	N	Mean	R	p-value
Cloud-Based Information Systems	261	3.29	0.643	0.000
Service Responsiveness	261	3.31		
Process Efficiency	261	3.25		

* Correlation is significant at the 0.05 level (2-tailed)

Table 2 shows that the Pearson correlation coefficient between cloud-based information systems and administrative service delivery is $r = 0.643$, with a p-value of 0.000, which is below the 0.05 significance threshold. Consequently, the null hypotheses (H03 & H04) stating that there is no significant relationship between cloud-based information systems and service responsiveness in higher education institutions in Rivers State, Nigeria, and there is no significant relationship between cloud-based information systems and process efficiency in higher education institutions in Rivers State, Nigeria, is rejected. The results reveal a significant, positive, and moderately strong relationship between cloud-based information systems and administrative service delivery. This

finding indicates that higher education institutions in Rivers State that have deployed cloud-based information systems in their administrative operations experience significantly improved levels of service responsiveness and process efficiency compared to institutions relying on conventional, non-cloud administrative platforms. The mean scores of 3.29 for cloud-based information systems, 3.31 for service responsiveness and 3.25 for process efficiency, while slightly lower than those recorded for digital workflow automation and service responsiveness, still indicate above-average perceptions of both constructs among the respondents, confirming that cloud adoption, even at current levels, contributes meaningfully to administrative service delivery in the study institutions.

Discussion of Findings

The finding that digital workflow automation significantly and positively relates to administrative service delivery in higher education institutions in Rivers State ($r = 0.681$, $p < 0.05$) aligns strongly with the extant literature and provides compelling empirical evidence for the central role of digital workflow tools in enhancing administrative responsiveness. This result resonates with the findings of Alikornwo et al. (2025), who established that records automation significantly enhanced information accessibility ($r = 0.652$) in Rivers State government MDAs, a finding that closely parallels the service responsiveness outcomes recorded in the present study. The consistency of findings across different institutional contexts in Rivers State lends considerable credibility to the conclusion that digital workflow automation is a robust and reliable predictor of administrative service delivery in the region's public sector and higher education administrative environments.

The present finding is further reinforced by Williams and Ataire (2025), who demonstrated a significant positive relationship between digitalization and administrative service delivery in Akwa Ibom State College of Education, with workflow automation identified as a primary mechanism through which service responsiveness was improved. The Technology Acceptance Model (Davis, 1989), which served as the primary theoretical anchor for this study, provides an explanatory framework for these results: administrative staff who perceive digital workflow tools as useful and easy to use are more likely to adopt and fully utilise these tools, leading to improved service response times and information provision. The relatively high mean score for digital workflow automation (3.42) indicates that respondents in the study institutions generally perceive the available digital workflow tools favourably, suggesting that the conditions for continued improvement in service responsiveness through increased digital workflow adoption are present, contingent on sustained institutional investment in digital infrastructure and capacity building.

The finding that cloud-based information systems significantly and positively relate to administrative service delivery ($r = 0.643$, $p < 0.05$) similarly confirms the theoretical propositions advanced and the empirical literature reviewed. This result is consistent with the findings of Obara (2025), who established that strategic information management frameworks enabled by digital infrastructure significantly improved organisational agility in Nigerian organisations, agility being a direct manifestation of process efficiency. The result also aligns with Alikornwo et al. (2025), who found that digital filing systems significantly enhanced data security ($r = 0.590$) in Rivers State government institutions, suggesting that cloud-based information management approaches, which encompass both digital filing and broader cloud computing capabilities, produce consistent positive effects on institutional information management outcomes. Nwinyokpugi & Alikorwnwo (2022) similarly demonstrated that enterprise content management, which is heavily reliant on cloud and digital information infrastructure, enhanced administrative efficiency in manufacturing firms, a finding that implicitly links cloud-based information management to process efficiency.

Internationally, the findings are congruent with the results of Vial (2019), who demonstrated that digital strategy implementation produces systematic improvements in organisational processes and service outcomes across diverse contexts, and Paul (2024), who established that cloud-enabled

digital transformation creates persistent improvements in institutional information accessibility and operational efficiency. The Resource-Based View (Barney, 1991) provides further theoretical support for the finding, as it suggests that cloud-based information systems represent a strategically valuable institutional resource that enables higher education institutions to achieve superior process efficiency outcomes that are not easily replicated by institutions without such digital assets. The slightly lower mean score for cloud-based information systems (3.29) compared to digital workflow automation (3.42) suggests that while cloud adoption is progressing in Rivers State higher education institutions, there remains considerable room for improvement, and that targeted institutional investment in cloud infrastructure will yield significant additional gains in administrative service delivery.

5. CONCLUSION AND RECOMMENDATIONS

This study set out to investigate the relationship between digital office strategy and administrative service delivery in higher education institutions in Rivers State, Nigeria. The study operationalised digital office strategy through digital workflow automation and cloud-based information systems, and assessed administrative service delivery through service responsiveness and process efficiency. Based on the empirical analysis conducted using Pearson Product-Moment Correlation on data collected from 261 administrative staff across six public higher education institutions in Rivers State, the study established the following conclusions: First, digital workflow automation has a significant, positive, and moderately strong relationship with administrative service delivery ($r = 0.681$, $p < 0.05$) in higher education institutions in Rivers State, indicating that institutions with higher levels of digital workflow automation deliver administratively more responsive services to their stakeholders. Second, cloud-based information systems have a significant, positive, and moderately strong relationship with administrative service delivery ($r = 0.643$, $p < 0.05$) in higher education institutions in Rivers State, indicating that institutions with well-deployed cloud information platforms achieve significantly higher levels of administrative process efficiency. These findings collectively confirm that digital office strategy is a robust and significant predictor of administrative service delivery in higher education institutions in Rivers State, Nigeria. The study therefore contributes empirically and theoretically to the growing body of knowledge on digital transformation in the Nigerian higher education sector and provides actionable insights for higher education administrators, policymakers, and researchers.

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

1. Higher education institutions in Rivers State should prioritise the development and implementation of comprehensive digital workflow automation systems across all administrative departments, particularly in the registry, bursary, academic affairs, and student affairs units, to significantly enhance the responsiveness of their administrative services. Institutional leadership should develop structured digital transformation roadmaps with clear timelines, resource allocations, and performance benchmarks.
2. The management of higher education institutions in Rivers State should invest substantially in cloud-based information management platforms that enable real-time access to institutional data, facilitate seamless inter-departmental coordination, and reduce the process inefficiencies associated with manual and paper-based information management. Partnerships with reputable cloud service providers should be explored to ensure cost-effective, scalable, and secure cloud deployment.
3. The National Universities Commission (NUC), the National Board for Technical Education (NBTE), and the National Commission for Colleges of Education (NCCE) should incorporate specific digital office strategy requirements into their accreditation and compliance

frameworks for higher education institutions in Nigeria, mandating minimum standards for digital workflow automation and cloud-based information system deployment.

4. Higher education institutions should invest in regular and systematic digital capacity building for their administrative staff, ensuring that personnel are proficient in the use of digital workflow and cloud-based tools. This will ensure that the perceived usefulness and ease of use of these technologies, as postulated by TAM, translate into optimal utilisation and maximum service delivery benefits.

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