

Digital Technologies and Public Service Delivery in Lagos State: A Mixed-Methods Analysis of Residency Registration

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Abstract

This study examines the impact of digital technologies on public service delivery and user satisfaction in residency registration at the Lagos State Residents Registration Agency. Anchored in the Technology Acceptance Model and e-governance theory, the study employs a mixed-methods design, comprising a cross-sectional survey of 220 agency staff and qualitative interviews with key personnel. Quantitative data were analysed using SPSS, while qualitative data were analysed through thematic analysis. The findings indicate that digital technologies have significantly improved service efficiency and user satisfaction in residency registration processes. However, infrastructural limitations, inadequate technical capacity, and unstable internet connectivity continue to constrain effective implementation. The study emphasises the significance of institutional readiness for achieving successful digital transformation in the public sector, highlighting the necessity for sustained investment in digital infrastructure, targeted policy reforms, and ongoing capacity-building. These measures are essential for enhancing public service delivery and strengthening digital governance in Lagos State and Nigeria more broadly.

Keywords: Digital Technologies; Public Service Delivery; Residency Registration; LASRRA; Digital Governance

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INTRODUCTION

Effective and responsive public service delivery remains a defining obligation of governments worldwide, as citizens depend on the state for essential services that support social welfare, administrative efficiency, and sustainable development. In many developing countries, including Nigeria, these expectations are often unmet due to persistent governance challenges such as cumbersome bureaucratic procedures, inadequate funding, limited technical expertise, and weak technological infrastructure (Egugbo, 2020). These systemic constraints not only undermine service quality but also erode public trust and weaken the legitimacy and performance of government institutions. Consequently, the integration of digital technologies has emerged as a critical strategy for modernising public administration and addressing long-standing inefficiencies across public service delivery systems.

Globally, digitalisation has altered the operational dynamics of public institutions by introducing advanced tools, such as automation, mobile service platforms, biometric systems, cloud computing, artificial intelligence, and data analytics, that enhance administrative efficiency, transparency, and citizen-centred governance (Steuer & Seiter, 2021). Digital reforms have become central to sustainable development agendas, promoting economic competitiveness, institutional accountability, and the expansion of inclusive service delivery mechanisms. Across Africa, governments are increasingly relying on digital technologies to overcome capacity limitations, broaden service accessibility, and support emerging digital economies (USAID, 2020), reflecting a continent-wide shift toward data-driven governance.

Within this context, e-governance, the systematic application of information and communication technologies (ICTs) to government operations, has gained prominence as a mechanism for transforming how public institutions interact with citizens and deliver services. E-governance initiatives aim to minimise transactional bottlenecks, enhance service accessibility, and support transparent and rapid administrative processes (Gborevbie et al., 2018). The expansion of digital infrastructures, rising internet penetration, and increased mobile connectivity have intensified these reforms globally, enabling more agile and responsive public institutions (Alcácer et al., 2016). In Nigeria, digital initiatives by key government agencies such as the Federal Inland Revenue Service, the Corporate Affairs Commission, and the Nigeria Immigration Service highlight the country's increasing dependence on digitalisation to address governance deficits, improve service delivery, and deepen citizen engagement (World Bank, 2020; Abasilim et al., 2020).

At the subnational level, the Lagos State Residents Registration Agency exemplifies ongoing efforts to institutionalise digital governance for improved service delivery. The agency was established to create and manage a comprehensive residents' identity database for Lagos State, Nigeria's most urbanised and economically dynamic region. Its core functions include the digital registration of residents, biometric data capture, issuance of residency cards, verification services, and the provision of demographic data for planning and decision-making. Through these digital platforms and automated workflows, the agency seeks to promote efficient, accurate, and accessible residency registration services.

Despite these initiatives, the agency continues to encounter challenges that hinder optimal digital service delivery, including inadequate ICT infrastructure, inconsistent power supply, weak system interoperability, limited digital literacy among public officials, periodic network disruptions, and growing concerns about data privacy and cybersecurity (Abasilim & Edet, 2015; Mann et al., 2020). Additionally, user scepticism and low trust in digital government systems complicate the adoption and sustained use of digital platforms. These barriers raise critical questions regarding the actual impact of digital transformation on service efficiency and citizen satisfaction.

However, existing empirical studies on digital governance in Nigeria have largely focused on federal agencies, general e-government adoption, or macro-level digital policy outcomes, with limited attention to sector-specific and subnational institutions such as residency registration agencies. Moreover, there is a notable paucity of mixed-method empirical studies that simultaneously examine institutional performance outcomes and user satisfaction in the context of biometric identity and registration systems at the state level. This creates a gap in understanding how digital reforms

operate in practice within frontline service institutions and how these reforms are experienced by both service providers and users.

To examine these issues, this study draws on two complementary theoretical frameworks: the Technology Acceptance Model and E-Governance Theory. The Technology Acceptance Model (Davis, 1989) explains how perceived usefulness and perceived ease of use shape individuals' acceptance of digital systems and their satisfaction with technology-enabled services. E-Governance Theory, in turn, emphasises the institutional and structural transformation of public administration through ICTs, including improvements in transparency, efficiency, accountability, and citizen participation (Abasilim & Esisio, 2025). Together, these frameworks enable an integrated analysis of both behavioural and institutional dimensions of digital service delivery.

Against this background, the study addresses the following objectives: (i) to assess the extent to which digital technologies have improved the efficiency and quality of residency registration services; (ii) to examine the relationship between digital platform usage and user satisfaction; and (iii) to identify the institutional and technological constraints affecting effective digital service delivery.

By focusing empirically on the Lagos State Residents Registration Agency and adopting a mixed-methods approach, this study makes three original contributions. First, it provides rare institution-specific evidence on digital transformation in a frontline public service agency in Nigeria. Second, it integrates behavioural and institutional perspectives through the combined use of the Technology Acceptance Model and E-Governance Theory. Third, it offers policy-relevant insights into how digital identity systems can be strengthened to enhance public service delivery and citizen trust at the subnational level.

Despite ongoing digital reforms, significant gaps persist in understanding the extent to which digital technologies have improved service delivery outcomes and enhanced citizen satisfaction in Lagos State. This study fills this gap by empirically examining the impact of digital technologies on service quality, administrative responsiveness, and satisfaction with residency registration services, thereby contributing to the broader discourse on digital governance, public service innovation, and technology-driven administrative reform in developing contexts.

METHODOLOGY

This study employed a cross-sectional survey design to investigate the impact of digital technologies on enhancing public service delivery and improving residency registration satisfaction in Lagos State, with the Lagos State Residents Registration Agency (LASRRA) serving as the focal institution. The design was appropriate because it enabled the collection of data from respondents at a single point in time, providing a systematic and contextually grounded snapshot of staff perceptions, operational experiences, and technology-driven changes within the agency.

To enhance analytical rigour and explanatory depth, the study employed a mixed-methods approach combining quantitative and qualitative data. Specifically, the study adopted an explanatory sequential mixed-methods design, in which quantitative data were collected and analysed first, followed by qualitative interviews aimed at explaining, elaborating, and contextualising the statistical results. This design was appropriate because it allowed the study not only to identify relationships between digital technologies and service delivery outcomes but also to understand the institutional, infrastructural, and human factors underlying those relationships. Integration occurred at the interpretation stage, where qualitative themes were explicitly used to explain observed quantitative patterns, thereby strengthening the validity and explanatory power of the findings.

Population and Sampling

The study population consisted of approximately 400 LASRRA staff members across headquarters and zonal offices as of December 2024. The sample size was determined using Yamane's (1967) formula for finite populations at a 95 percent confidence level and a 5 percent margin of error:

$$n = \frac{N}{1 + N(e^2)}$$



Where $N = 400$ and $e = 0.05$, yielding a minimum required sample of approximately 200. To further enhance representativeness and accommodate potential non-responses, the sample was increased to 220.

Although LASRRA operates with differentiated administrative, technical, and operational units, simple random sampling was deliberately adopted rather than stratified sampling. This decision was justified by the study's analytical focus on organisational-level experiences with digital technologies rather than unit-specific variations. Simple random sampling ensured that every staff member had an equal probability of selection, thereby reducing selection bias and supporting the generalisability of findings across the organisation.

Data Sources and Instruments

Data were generated from two complementary sources: a structured questionnaire and in-depth interviews. The quantitative instrument consisted of a structured questionnaire with two sections. Section A captured respondents' demographic characteristics, including age, gender, educational qualification, years of service, and organisational unit. Section B comprised Likert-scale items that measured key constructs, including digital technology adoption, efficiency of service delivery, responsiveness of residency registration processes, and overall satisfaction with LASRRA's digital platforms. Items were adapted from established digital governance and technology acceptance frameworks to ensure conceptual relevance and construct validity.

The questionnaire was administered physically to staff during working hours to enhance response rates and data completeness. Clear instructions were provided, and completed instruments were retrieved within a specified timeframe to minimise attrition and response bias.

The qualitative component involved in-depth interviews with purposively selected staff possessing direct experience and technical knowledge of LASRRA's digital systems, including IT personnel, biometric officers, and senior operational staff at the headquarters in Ikeja. Purposive sampling was appropriate at this stage because the objective was not statistical representation but analytical depth. These participants were best positioned to explain implementation challenges, infrastructure constraints, system reliability, policy limitations, and staff capacity issues that could not be fully captured through structured survey items.

Ethical Considerations

Ethical standards were strictly observed throughout the study. Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. Participants were assured of confidentiality and anonymity, and no identifying information was linked to survey responses or interview transcripts. Interview sessions were audio-recorded only with explicit permission, and all data were securely stored and used solely for academic purposes.

Validity and Reliability of the Instrument

Content validity was established through expert review by scholars and practitioners in public administration, information systems, and research methodology. Their feedback informed revisions to ensure conceptual clarity and alignment with the study objectives.

Reliability of the quantitative instrument was assessed using Cronbach's alpha, and all scales exceeded the acceptable threshold of 0.70, indicating satisfactory internal consistency.

Data Analysis

Quantitative data were analysed using SPSS version 27. Descriptive statistics summarised respondents' characteristics and perceptions, while inferential analyses, including Pearson correlation and multiple regression, examined relationships between digital technology adoption, service efficiency, and residency registration satisfaction.

Qualitative data were analysed thematically using ATLAS.ti version 25. An inductive coding process was employed, involving systematic coding of transcripts, categorisation of codes into themes, and synthesis of overarching patterns. Representative excerpts were used to illustrate key themes and enhance interpretive transparency.

Integration of Quantitative and Qualitative Findings

Integration occurred through a meta-inference process consistent with the explanatory sequential design. Quantitative findings identified the strength and direction of relationships among



key variables, while qualitative insights explained why these relationships existed by revealing institutional practices, infrastructural realities, and human capacity issues. This complementary use of data enhanced the robustness of conclusions and ensured that statistical associations were interpreted within their organisational and policy context.

RESULTS AND ANALYSIS

The findings of this study provide a rigorous assessment of the hypotheses and generate empirical insights into how digital technologies influence public service delivery and satisfaction with residency registration at the Lagos State Residents Registration Agency (LASRRA). Overall, the results contribute to the growing literature on digital governance by demonstrating the extent to which digital transformation enhances administrative efficiency and citizen engagement within public-sector organisations.

Of the 220 questionnaires administered, 214 were duly completed and validated for analysis, resulting in a strong response rate of 97.2%. This high level of participation reinforces the robustness of the dataset and reflects respondents' keen interest in LASRRA's digital operations. It also strengthens the validity of the study's conclusions regarding the agency's digital infrastructure and its effectiveness in improving service accessibility and administrative processes.

Table 1: Socio-demographic Characteristics of the Respondents

Socio-demographic Characteristics	Number of Respondents	Percentage (%)
Gender		
Male	116	54.2
Female	98	45.8
Total	214	100
Age		
18 – 25 years	14	6.5
26 – 35 years	46	21.5
36 – 45 years	117	54.7
46 – 55 years	36	16.8
55 years and above	1	0.5
Total	214	100
Marital Status		
Single	42	19.6
Married	170	79.4
Divorced	2	0.9
Total	214	100
Employment Status		
Permanent Staff	87	40.7
Ad hoc	124	57.9
Other	3	1.4
Total	214	100
Length of Service		
Less than One Year	2	0.9
1 – 5 years	36	16.8
6 – 10 years	57	26.6
11 – 15 years	96	44.9
Above 15 years	23	10.7
Total	214	100

Source: Field Survey, 2025

Table 1 presents the socio-demographic characteristics of the respondents. The gender distribution shows that 116 respondents (54.2%) were male, while 98 (45.8%) were female, indicating a slightly higher participation of male respondents. In terms of age, the data reveal that 6.5% of respondents were between 18 and 25 years old, 21.5% were aged 26–35 years, and the majority (54.7%) fell within the 36–45-year category. Additionally, 16.8% were aged 46–55 years,

while only 0.5% were 56 years and above. These results indicate that the study population was predominantly composed of mid-career adults, who are often central to operational processes within public agencies.

Regarding marital status, 19.6% of respondents were single, while a substantial majority (79.4%) were married. Only 0.9% identified as divorced. This distribution suggests that the respondent pool consisted primarily of individuals with stable family responsibilities, which may reflect patterns typical of experienced civil service personnel.

The employment status of the respondents shows that 40.7% were permanent staff, while 57.9% served as ad-hoc staff, with 1.4% classified under other categories. This indicates that LASRRA's operations rely significantly on ad-hoc personnel, who support registration and implementation activities across the state.

Regarding length of service, 0.9% of respondents had worked for less than one year, 16.8% for 1–5 years, and 26.6% for 6–10 years. Notably, 44.9% had been in service for 11–15 years, while 10.7% had worked for more than 15 years. This pattern shows that a substantial segment of the workforce has extensive institutional experience, which enhances the credibility of their responses concerning the agency's digital initiatives.

Hypotheses Testing

Hypothesis One: There is no significant relationship between the adoption of digital technologies by the Lagos State Residents Registration Agency and public service delivery.

Table 2: Model Summary of Linear Regression for Research Question One

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.389 ^a	.151	.147	.55990

a. Predictors: (Constant), Digital_Tech_Deployed

Source: SPSS Result

The results presented in Table 2 show the correlation ($R = 0.389$) between LASRRA's digital technologies and public service delivery. This result implies that there exists a positive low relationship between the two variables. Additionally, the results indicate that R-squared equals 0.151 and Adjusted R-squared equals 0.147. This result implies that LASRRA's digital technologies account for 14.7% - 15.1% of the variability in public service delivery.

Table 3: Linear Regression Model Fitness (ANOVA) for Research Question One

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.828	1	11.828	37.731	.000 ^b
	Residual	66.458	212	.313		
	Total	78.286	213			

a. Dependent Variable: Service_Delivery

b. Predictors: (Constant), Digital_Tech_Deployed

Source: SPSS Result

The result in Table 3 shows that $F(1, 212) = 37.731$, $p = 0.000$, where $p < 0.05$. This result indicates that the LASRRA digital technology is a viable variable that can enhance public service delivery. This ANOVA result indicates that the model is fit, and subsequent regression results are valid.

Table 4: Regression Coefficients for Research Question One

Coefficients^a

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.784	.267		6.693	.000
	Digital_Tech_Deployed	.504	.082	.389	6.143	.000

a. Dependent Variable: Service_Delivery

Source: SPSS Result

The result presented in Table 4 shows that Beta (β) = 0.504, S.E. = 0.082, Standardised Beta = 0.389, $p = 0.000$ and $p < 0.05$. This result shows that the deployment and use of LASRRA's digital technologies have a positive and significant impact on public service delivery. This result implies that a unit increase in the deployment and use of LASRRA's digital technologies will likely improve and boost public service delivery by 50.4%. This result shows that LASRRA's digital technologies can effectively improve public service delivery by 50.4%.

The results and answer to research question one presented in Table 4.10 established that a unit increase in the adoption of LASRRA's digital technologies would likely improve and boost public service delivery by 50.4% (Beta (β) = 0.504, S.E. = 0.082, Standardised Beta = 0.389, $p = 0.000$ and $p < 0.05$). This result provides sufficient evidence to reject the null hypothesis and accept the research hypothesis, which states that LASRRA's adoption of digital technologies has a significant influence on public service delivery.

Hypothesis Two: The Lagos State Residents Registration Agency's use of digital technologies has not facilitated residents' satisfaction with registration.

Table 5: Model Summary of Linear Regression for Research Hypothesis Two

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.663 ^a	.440	.437	.33273

a. Predictors: (Constant), Adoption_Dig_Tech

Source: SPSS Result

The results presented in Table 5 show the correlation ($R = 0.663$) between LASRRA's use of digital technologies and residents' satisfaction. This result implies a positive high relationship between the two variables. Additionally, the results show that R-squared = 0.440 and Adjusted R-squared = 0.437. This result implies that LASRRA's adoption of digital technologies accounts for 43.7% - 44.0% of the variability in residents' satisfaction.

Table 6: Linear Regression Model Fitness (ANOVA) for Research Hypothesis Two

ANOVA ^a						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	18.411	1	18.411	166.301	.000 ^b
	Residual	23.470	212	.111		
	Total	41.882	213			

Dependent Variable: Residents_Satisfaction

Predictors: (Constant), Adoption_Dig_Tech

Source: SPSS Result

Table 6 shows that $F(1, 212) = 166.301$, $p = 0.000$, where $p < 0.05$. This result indicates that LASRRA's adoption of digital technology is a viable variable that can influence residents' satisfaction. This ANOVA result indicates that the model is fit, and subsequent regression results are valid.

Table 7: Regression Coefficients for Research Hypothesis Two

Coefficients ^a						
Unstandardised Coefficients			Standardised Coefficients Beta		t	Sig.
Model	B	Std. Error				
1	(Constant)	1.227	.151		8.138	.000
	Adoption_Dig_Tech	.581	.045	.663	12.896	.000

a. Dependent Variable: Residents_Satisfaction

Source: SPSS Result

The result presented in Table 7 shows that Beta (β) = 0.581, S.E. = 0.045, Standardised Beta = 0.663, $p = 0.000$ and $p < 0.05$. This result indicates that LASRRA's adoption of digital technologies has a positive and significant impact on resident satisfaction. This result infers that a unit increase in

LASRRA's adoption of digital technologies will likely improve resident satisfaction by 58.1%. This result shows that LASRRA's adoption of digital technologies can effectively improve and influence residents' satisfaction by 58.1%. These results provide sufficient evidence to reject the null hypothesis and accept the research hypothesis, which states that LASRRA's adoption of digital technologies has a positive influence on residents' registration satisfaction.

DISCUSSION OF FINDINGS

This study examined how digital technologies are utilised by the Lagos State Residents Registration Agency (LASRRA) to enhance public service delivery and improve satisfaction with residency registration in Lagos State. By integrating quantitative and qualitative evidence, the study provides a theoretically informed and empirically grounded understanding of digital governance within a subnational public institution in a developing context. The findings both reaffirm and complicate the assumptions of the Technology Acceptance Model (TAM) and e-Governance Theory by demonstrating that while digital tools can improve efficiency and satisfaction, their effectiveness is mediated by infrastructural, organisational, and socio-institutional constraints.

Quantitative findings indicate high levels of perceived usefulness and perceived ease of use of LASRRA's digital platforms, the two core determinants of technology acceptance within TAM. These perceptions were significantly associated with improved administrative efficiency, faster processing times, and higher levels of staff-reported satisfaction with service delivery outcomes. This confirms TAM's central proposition that when users perceive a system as useful and easy to use, they are more likely to accept it and integrate it into routine organisational practice (Ofoma, 2021).

Qualitative evidence supports this interpretation by demonstrating how digital tools have reduced bureaucratic bottlenecks, improved authentication processes, and enhanced the reliability of identity verification for services such as pensions, healthcare access, and school enrollment. These findings suggest that digital technologies at LASRRA function not merely as technical tools but as organisational enablers that restructure workflows and redefine service relationships between the state and citizens.

However, the findings also extend TAM by demonstrating that acceptance alone does not guarantee optimal system performance. Staff frequently reported that infrastructural weaknesses, particularly unstable internet connectivity and power outages, disrupt usage despite positive perceptions. This indicates that in developing contexts, external facilitating conditions operate as critical moderators of technology use, suggesting the need to supplement TAM with institutional and infrastructural variables.

The reported enrolment of nearly 10 million residents into LASRRA's digital identity system reflects significant expansion in service reach and citizen engagement. This aligns with e-Governance Theory's proposition that ICT adoption enhances access, inclusion, and administrative coverage. The multipurpose use of the LASRRA card across transportation, education, and identity verification illustrates how digital identity infrastructures serve as foundational platforms for integrated public service delivery.

Nonetheless, the study reveals that digital inclusion remains uneven. Residents in riverine and underserved communities face persistent barriers due to weak connectivity and infrastructural limitations. While mobile registration initiatives represent an attempt to address these inequalities, their effectiveness remains constrained by broader structural deficits. This finding challenges the implicit assumption within e-Governance Theory that technological deployment naturally leads to equitable access, showing instead that digital systems may reproduce existing socio-spatial inequalities if not accompanied by targeted infrastructural investment (Adewumi & Abasilim, 2024).

The centrality of LASRRA's digital database to policy planning and resource allocation reflects a shift toward data-driven governance, consistent with e-Governance Theory's emphasis on information integration and administrative rationalisation. Respondents highlighted the value of reliable demographic data for forecasting, service targeting, and inter-agency coordination.

However, this potential is undermined by limited technical capacity, insufficient training, and weak system interoperability (Abasilim et al., 2022). These constraints reveal that data availability alone does not guarantee effective governance; rather, institutional readiness and human capital are

decisive factors. This finding complicates the technological determinism often embedded in digital governance narratives by emphasising that governance outcomes are shaped as much by organisational capacity as by technological sophistication.

The use of the Integrated Biometric Recognition System and API-based interoperability frameworks demonstrates progress toward secure, integrated, and transparent governance infrastructures. These systems support accuracy, reduce duplication, and enhance accountability across agencies, reinforcing e-Governance Theory's emphasis on transparency and institutional integration (Madaki et al., 2024).

Yet, qualitative findings reveal persistent system downtimes, technical failures, and concerns about data security and surveillance. These perceptions of risk complicate both TAM and e-Governance Theory. While TAM assumes that perceived usefulness and ease of use foster acceptance, this study shows that perceived risk and trust deficits also significantly shape user attitudes. Similarly, while e-Governance Theory presumes that digitalisation builds transparency and trust, the findings suggest that digital identity systems may also generate anxiety around privacy and state surveillance, particularly in contexts with weak data protection regimes.

Overall, the findings suggest that digital technologies at LASRRA have meaningfully enhanced service efficiency and satisfaction, but their impact is neither automatic nor uniform. The study confirms the relevance of TAM and e-Governance Theory but also reveals their limitations when applied to developing institutional contexts. Specifically, the findings indicate that:

1. Technology acceptance is conditioned by infrastructural reliability and organisational support.
2. Digital inclusion is mediated by spatial, economic, and infrastructural inequalities.
3. Governance outcomes depend as much on human and institutional capacity as on technological deployment.
4. Trust, privacy, and risk perceptions are critical but under-theorised dimensions of digital public service delivery.

Thus, this study extends existing theoretical frameworks by highlighting the need for a more context-sensitive model of digital governance that integrates technological, institutional, and socio-political dimensions. In doing so, it contributes to a more nuanced understanding of how digital transformation unfolds within public sector institutions in developing settings such as Lagos State.

CONCLUSION AND RECOMMENDATIONS

The findings of this study provide clear empirical evidence that the Lagos State Residents Registration Agency (LASRRA) has made measurable progress in utilising digital technologies to enhance public service delivery in Lagos State. The adoption of biometric registration systems, automated workflows, and interoperable digital platforms has improved service accessibility, reduced processing time, and enhanced administrative transparency. These outcomes demonstrate the practical value of digital governance as a pathway for modernising public administration, strengthening institutional effectiveness, and improving the quality of interactions between the state and citizens.

Beyond its empirical insights, this study makes several important contributions to theory. First, it provides contextual validation of the Technology Acceptance Model (TAM) within a subnational public sector institution in a developing country. The findings confirm that perceived usefulness and perceived ease of use continue to be central drivers of technology acceptance among public officials. However, the study extends TAM by demonstrating that infrastructural reliability, organisational support, and digital skills significantly shape the translation of acceptance into effective usage. This suggests that in low-resource institutional settings, technology acceptance is not only a behavioural phenomenon but also an organisational and infrastructural one.

Second, the study contributes to e-Governance Theory by showing that digitalisation does not automatically produce inclusive, efficient, and trusted governance. While LASRRA's digital systems have expanded service reach and improved data integration, persistent challenges related to infrastructure, capacity, and data privacy complicate the theoretical expectation that ICT adoption inherently enhances governance quality. The study therefore refines e-Governance Theory by

emphasising the mediating role of institutional capacity, regulatory frameworks, and socio-political trust in shaping digital governance outcomes.

From a policy perspective, the study highlights digital identity infrastructure as a strategic foundation for effective governance in rapidly urbanising contexts such as Lagos State. A well-functioning digital registry supports service coordination, demographic planning, fiscal targeting, and inter-agency collaboration. Policymakers should therefore prioritise sustained investment in digital infrastructure, including reliable power supply, secure connectivity, and system interoperability.

The study also underscores the importance of continuous staff training and institutional capacity development to ensure that digital tools are not underutilised or mismanaged. Strengthening data protection frameworks and cybersecurity protocols is equally essential for building public trust and safeguarding citizen information. Furthermore, targeted inclusion strategies, such as mobile registration units and community-based sensitisation programmes, are necessary to ensure that vulnerable and underserved populations are not excluded from digital public services.

This study opens several avenues for future research. Comparative studies across other Nigerian states or public agencies would help determine whether the patterns observed at LASRRA are generalisable across institutional and regional contexts. Longitudinal research could examine how digital governance outcomes evolve over time, particularly as infrastructure improves and digital literacy expands. Future studies could also explore citizen perspectives more directly, focusing on trust, privacy concerns, and user experience, as well as the political and ethical implications of large-scale digital identity systems.

In summary, this study demonstrates that digital technologies can significantly enhance public service delivery and institutional performance; however, their effectiveness depends on more than technological deployment alone. Digital governance is best understood as a socio-technical transformation that requires alignment between technology, institutional capacity, policy frameworks, and public trust. By empirically and theoretically illuminating this dynamic, the study contributes to a more nuanced and context-sensitive understanding of digital governance in developing societies. Drawing from the study's findings, the following recommendations are advanced to enhance the effectiveness of digital technologies in public service delivery in Lagos State:

The Lagos State Government should prioritise the development of a comprehensive Digital Public Service Infrastructure Policy that secures long-term investment in ICT systems across ministries, departments, and agencies. This policy should institutionalise periodic upgrades of existing platforms, incorporate scalability measures for emerging technologies such as artificial intelligence and cloud computing, and establish cybersecurity protocols that safeguard resident data. In addition, formal legislative support is necessary to ensure stable funding for digital governance initiatives, reinforce compliance requirements, and establish a coherent regulatory framework for expanding digital services across the state.

To ensure the effective operation of digital platforms, a structured and continuous capacity-building programme should be integrated into public sector training systems. This should include mandatory digital literacy modules, targeted training in data governance and cybersecurity, and specialised workshops on user experience optimisation. Creating digital innovation hubs within key agencies can further support staff learning, encourage innovation, and promote cross-agency technical collaboration. These measures are crucial for cultivating a technologically competent workforce that can sustain digital transformation efforts.

Given the persistent infrastructural gaps identified in the study, the state government should intensify investments in digital infrastructure, particularly in underserved, riverine, and low-income areas. Expanding the deployment of mobile registration devices, strengthening broadband connectivity, and improving server reliability will enhance the reach and effectiveness of LASRRA's services. User-friendly system designs are also essential to ensure accessibility for citizens with varying levels of digital literacy.

A dedicated Digital Inclusion Strategy should be adopted to ensure that vulnerable, rural, and digitally marginalised populations gain access to e-government services. This strategy should include



subsidised internet access, customised digital literacy programmes for different demographic groups, and disability-friendly service interfaces. Public awareness campaigns, utilising traditional media, community forums, and digital platforms, should be intensified to enhance citizen participation in the residency registration process and foster trust in digital public services.

To maximise the value of LASRRA's database, the government should introduce a Data-Driven Governance Policy that promotes the systematic use of big data analytics for service demand forecasting, resource planning, and performance monitoring. Establishing a unified data-sharing framework would help eliminate information silos, improve inter-agency coordination, and create a more integrated digital governance ecosystem.

The Lagos State Government should consider developing a dedicated E-Governance Act to formalise standards for digital platform interoperability, outline data protection requirements, and define compliance obligations for all ministries and agencies. The establishment of a central e-governance regulatory agency would also provide oversight, ensure standardisation, and guide the periodic evaluation of digital governance initiatives across the state.

A comprehensive assessment framework should be established to monitor the performance of digital services more systematically. This should include well-defined Key Performance Indicators (KPIs), periodic evaluations to measure the effectiveness of digital tools, and structured feedback mechanisms that allow citizens to assess and report service quality. For transparency and accountability, an independent Digital Governance Review Board should be mandated to conduct regular audits, identify emerging challenges, and recommend strategic adjustments to sustain improvements in digital public service delivery.

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