



## APPRAISING PUBLIC SECTOR PERFORMANCE IN THE ERA OF E-GOVERNANCE: A CASE STUDY OF THE NIGERIA IMMIGRATION SERVICE E-PASSPORT SYSTEM

<sup>1</sup>EGWUAGU, Bridget Uloma, Ph.D

<sup>2</sup>OKAFOR, Sebastine Chukwuebuka, Ph.D

<sup>3</sup>UKWUEZE, Ugo-Ferdinand

<sup>1</sup>Department of Public Administration,  
Enugu State University of Science & Technology, ESUT

<sup>2</sup>Department of Mass Communication,  
Enugu State University of Science & Technology, ESUT

<sup>3</sup>School of postgraduate studies,  
University of Nigeria Nsukka.

**Corresponding Author:** EGWUAGU, Bridget Uloma; ulomaegwuagu@gmail.com

### Abstract

This study appraises the performance of the Nigeria Immigration Service (NIS) e-passport system as an instrument of e-governance, examining the extent to which the system has fulfilled its objectives of improving service efficiency, reducing corruption, and enhancing citizen satisfaction with passport processing. Anchored on the Technology Acceptance Model (TAM) and the DeLone and McLean Information Systems Success Model, the study employed a descriptive survey design and administered a structured questionnaire to 312 passport applicants across three NIS offices in the Federal Capital Territory, Lagos, and Enugu. Data were analysed using descriptive statistics, Pearson correlation, and one-way ANOVA. Findings reveal moderate overall system satisfaction ( $M = 3.09$ ,  $SD = 0.82$ ), with significant variation across service dimensions: system accessibility and online application received relatively positive ratings ( $M = 3.41$ ), whilst processing time, physical office experience, and technical reliability scored considerably lower ( $M = 2.54$ ,  $SD = 0.91$ ). ANOVA results indicated significant differences in satisfaction levels across applicant location ( $F(2, 309) = 14.73$ ,  $p < .001$ ), with Enugu applicants reporting substantially lower satisfaction than their Lagos and Abuja counterparts. The study concludes that whilst the NIS e-passport system represents a meaningful step toward digital governance in Nigeria, its performance as an e-governance instrument is constrained by infrastructure gaps, uneven digital capacity across the country, and persistent manual process integration that undermines system coherence. Strategic investment in digital infrastructure, staff training, and citizen digital literacy is necessary to realise the transformative potential of the system.

**Keywords:** e-governance, e-passport system, Nigeria Immigration Service, public sector performance, digital transformation, service delivery

### Introduction

The adoption of e-governance frameworks in developing country public sectors has been widely advocated as a strategy for improving service delivery transparency, reducing bureaucratic corruption, and strengthening citizen engagement with state institutions. E-governance, defined broadly as the strategic application of information and communication technologies to government processes, service delivery, and public administration, has been associated in the global literature with significant gains in operational efficiency, accountability, and institutional legitimacy (Abdulkareem, 2024; E-Governance and Public Service Delivery, 2025). However, the evidence from sub-Saharan African contexts cautions against uncritical optimism: numerous e-governance initiatives have been

implemented with minimal impact on service quality, stalled by infrastructure deficits, digital literacy gaps, and organisational resistance to change. Assessing the actual performance of specific e-governance instruments is therefore both an empirical and a policy imperative.

The Nigeria Immigration Service e-passport system, introduced as part of broader federal government digital reform efforts, represents one of Nigeria's most visible and citizen-facing e-governance deployments. The enhanced e-passport booklet, featuring polycarbonate technology, biometric data integration, and an online application platform, was designed to reduce processing times, eliminate middlemen, and introduce a degree of automation into a notoriously opaque and corruption-prone service (Nigeria Immigration Service, 2024). Nigeria's ranking at 140th out of 193 countries in the 2022 United Nations e-governance maturity survey underscores the general underdevelopment of digital public services in the country (PMC, 2023), making the e-passport system one of a small number of e-governance instruments with genuine national reach and public visibility. The system's performance is therefore both symbolically and substantively significant for the trajectory of digital governance in Nigeria.

Existing appraisals of the NIS e-passport system have been primarily descriptive, examining the features of the system and its stated objectives without subjecting its performance to rigorous empirical measurement from the citizen perspective (IRE Journals, 2024). The absence of systematic, survey-based evidence on citizen satisfaction with the e-passport system is a significant gap in the e-governance literature, given that citizen satisfaction is the ultimate measure of public service value in democratic governance frameworks. Furthermore, the geographic unevenness of e-passport system performance, reflecting Nigeria's profound digital divide between metropolitan and peripheral locations, has not been systematically documented. The present study addresses both gaps by presenting the first multi-city empirical assessment of NIS e-passport system performance from the perspective of service users.

The study is organised around three research questions: What is the overall level of citizen satisfaction with the NIS e-passport system? Which service dimensions of the e-passport system generate the highest and lowest satisfaction? Are there statistically significant differences in satisfaction levels across applicant locations? These questions are grounded in the DeLone and McLean IS Success Model's framework of system quality, information quality, and service quality as determinants of user satisfaction. The findings are expected to contribute to the evidence base for e-governance performance assessment in Nigeria and to generate actionable recommendations for NIS and federal policy.

## Literature Review

### E-Governance and Public Sector Performance in Nigeria

The discourse on e-governance in Nigeria is characterised by a persistent tension between transformative ambition and constrained implementation. Nigeria's federal government has committed, through successive policy frameworks, to the deployment of digital technologies across public administration, with the National Information Technology Development Agency and the e-Government Strategies document articulating aspirations for a paperless, citizen-centred public service. In practice, however, implementation has been selective and uneven: whilst certain agencies, including the Joint Admissions and Matriculation Board and the Federal Inland Revenue Service, have achieved meaningful digital integration, many others continue to rely on manual processes supplemented by basic online interfaces (Abdulkareem et al., 2022a; PMC, 2023). This pattern reflects the structural constraints identified across the e-governance literature, including inadequate broadband infrastructure, low digital literacy among both staff and citizens, and cybersecurity vulnerabilities, as well as the bureaucratic resistance that digitisation of records tends to provoke among public servants whose informal economic activities depend on information opacity (E-Governance for Functional Bureaucratization, 2024).

A bibliometric analysis of ICT research in Nigeria's public administration identified e-governance as an increasingly prominent research theme from 2016 onwards, with a growing concentration of studies on service delivery automation, citizen participation, and institutional transparency (Frontiers, 2025). Notwithstanding this scholarly growth, the analysis also identifies significant gaps in empirical research on e-governance performance from the citizen perspective, with the majority of studies relying on secondary data, expert interviews, or administrative assessments rather than survey data from service users. The present study responds directly to this methodological gap by foregrounding the experience of e-passport applicants as the primary evidence base for performance assessment. This choice reflects the normative position, articulated in public value theory, that government performance is ultimately defined by its impact on citizens, not by administrative benchmarks or technology adoption metrics.

A descriptive analysis of NIS e-governance practices between 2015 and 2023 identified the e-passport system as the service with the most advanced digital integration within the agency, but noted persistent challenges including lengthy processing times that contradict the system's stated efficiency objectives, dependence on physical office visits that undermine the online application premise, and vulnerability to corruption at the interface between digital and manual process stages (IRE Journals, 2024). These findings suggest that the e-passport system's performance falls significantly short of its design aspirations, though the absence of systematic citizen satisfaction data in the IRE analysis limits the precision with which this gap can be characterised. The present study provides the quantitative citizen satisfaction evidence necessary to ground this characterisation empirically.

### **The E-Passport System as an E-Governance Instrument**

The Nigeria Immigration Service e-passport system operates at the intersection of biometric technology, digital administration, and citizen service, making it a particularly instructive case for e-governance performance assessment. The enhanced e-passport booklet introduced polycarbonate technology and biometric data integration alongside a ten-year validity period, replacing a document that had remained technologically static for over a decade (NIS, 2024). The automation of the issuance process was explicitly framed as a mechanism for addressing touting and middlemen, acknowledging that the previous manual system had created exploitable information asymmetries between service providers and citizens. In design terms, the NIS e-passport system thus addresses multiple dimensions of public service failure simultaneously: technological obsolescence, corruption vulnerability, and citizen inconvenience.

Comparative evidence from a Tanzanian study examining citizen satisfaction with the e-passport system in the Tanzania Immigration Service provides a useful benchmark for interpreting NIS performance data (Rwegasira et al., 2024). That study found that system quality, information quality, and service quality, the three dimensions of the DeLone and McLean IS Success Model, were all significant predictors of user satisfaction with the e-passport service, with service quality exhibiting the strongest effect. The finding that citizens evaluate e-governance instruments not merely on technical functionality but on the quality of human service delivery at points of system interaction is directly applicable to the NIS context, where physical office visits remain a mandatory component of the application process. The implication is that the NIS e-passport system's performance will be shaped as much by staff competence and service attitude as by the technical quality of the digital platform itself.

### **Infrastructure, Digital Literacy, and E-Governance Performance**

Infrastructure quality and citizen digital literacy are consistently identified in the e-governance literature as the primary structural determinants of system adoption and performance. Nigeria's broadband penetration stood at approximately 45% in 2023, a figure insufficient for equitable nationwide access to online government services, and the geographic distribution of internet connectivity is highly uneven, with urban centres particularly Lagos and Abuja exhibiting significantly higher connectivity than secondary cities and peri-urban areas (E-Governance for Functional Bureaucratization, 2024). This infrastructure asymmetry directly affects the equity of the NIS e-passport system's performance: citizens in well-connected areas can complete the online application stage efficiently, whilst

those in underserved areas face connectivity-mediated barriers that reinstate many of the access disadvantages the system was designed to eliminate. The geographic variation in satisfaction documented by the present study is therefore not arbitrary but structurally determined.

Digital literacy deficits compound the infrastructure challenge by limiting the proportion of the citizen population capable of independently navigating online application platforms. Abdulkareem (2024) documents persistent gaps in digital literacy across Nigerian civic populations, noting that even citizens with internet access frequently lack the navigational competencies required to complete complex multi-step government applications without assistance. The NIS e-passport portal, whilst improved from earlier iterations, involves multiple stages of form completion, document upload, payment, and appointment scheduling that presuppose digital literacy levels unavailable to a significant proportion of applicants. Where citizens lack these competencies, dependence on informal intermediaries persists, reproducing the very touting and middleman dynamics that the online system was designed to eliminate. This irony of e-governance, whereby digitisation intended to reduce corruption inadvertently displaces it to digital assistance markets, represents one of the more nuanced performance dimensions that satisfaction surveys must capture.

### **Theoretical Framework**

Two theoretical frameworks are deployed in this study: the Technology Acceptance Model (TAM) and the DeLone and McLean Information Systems Success Model. TAM, as operationalised by Venkatesh et al. (2012), posits that user acceptance of information systems is governed by perceived usefulness and perceived ease of use, two constructs that determine behavioural intention to use the system. Applied to the NIS e-passport system, TAM predicts that citizens' willingness to engage with the online application platform is mediated by their assessment of its utility in simplifying the application process and their confidence in their ability to navigate it. Where either perception is negative, the system reverts in practice to a hybrid of digital and manual processing, as citizens delegate digital tasks to intermediaries or attend physical offices to complete stages they cannot manage independently.

The DeLone and McLean IS Success Model provides a complementary multidimensional framework for assessing information system performance beyond simple adoption rates. The model identifies six interrelated success dimensions: system quality, information quality, service quality, system use, user satisfaction, and net benefits. In the e-governance context, service quality, encompassing the responsiveness, reliability, and competence of service delivery across all system touchpoints, is particularly significant, as it introduces a human service dimension that TAM's focus on individual technology acceptance does not capture. For the NIS e-passport system, where citizens must interact with both a digital platform and physical NIS offices, the DeLone and McLean model's attention to service quality as a determinant of satisfaction is especially germane. Together, these frameworks provide a theoretically grounded basis for assessing the multi-dimensional performance of the NIS e-passport system from the citizen perspective.

### **Identified Research Gaps**

The existing literature on e-governance in Nigeria, whilst growing, is characterised by three significant gaps that the present study addresses. First, empirical research on specific e-governance instruments in Nigeria has relied predominantly on qualitative methods, secondary data analysis, or administrative assessments, with the NIS e-passport system lacking any published quantitative citizen satisfaction study. Second, the geographic unevenness of e-passport system performance across Nigerian cities of varying digital infrastructure quality has not been empirically documented, leaving policymakers without evidence on the spatial equity of service delivery. Third, whilst the DeLone and McLean model has been applied extensively in e-governance contexts globally and in some African studies, its application to the specific context of Nigerian immigration service delivery remains undeveloped. The present study fills all three gaps simultaneously, making a methodological, empirical, and theoretical contribution to the literature.

## Methodology

### Research Design and Study Population

The study employed a descriptive survey research design, appropriate for systematically collecting standardised evidence on citizen perceptions and experiences of a specific public service system across multiple sites. The design is consistent with methodological choices made in comparable e-governance user satisfaction studies, including those examining e-passport systems in Tanzania and Indonesia (Rwegasira et al., 2024; Rifai, 2022). The target population comprised individuals who had applied for a Nigerian e-passport within the preceding twelve months at NIS offices in Enugu, Lagos Island, and the Federal Capital Territory (Abuja), collectively representing a geographic spread across three of Nigeria's major urban passport application centres. The twelve-month recency criterion ensured that respondents' evaluations reflected current system performance rather than historically obsolete experiences.

### Sampling Procedure

Purposive sampling was employed to select the three NIS office locations, based on their geographic spread, contrasting digital infrastructure contexts, and collectively high application volumes. Within each location, systematic random sampling was used to recruit respondents from the queue of applicants attending for biometric capture appointments, selecting every third eligible individual. The Taro Yamane formula applied to an estimated annual applicant population of 86,000 across the three offices yielded a minimum sample of 382 at a 5% error margin. Given the practical constraints of queue-based recruitment, a final sample of 312 valid responses was obtained, representing 81.7% of target, a figure deemed adequate for robust inferential analysis. Enugu contributed 98 respondents, Lagos 112, and Abuja 102.

### Research Instrument

A structured, self-administered questionnaire was designed by the researcher and validated through expert review by three academics with expertise in e-governance, public administration, and information systems. The instrument comprised four sections: demographic and application characteristics (Section A), system quality and accessibility assessment (Section B), service delivery experience (Section C), and overall satisfaction and net benefit perceptions (Section D). Sections B through D employed five-point Likert scales. A pilot test administered to 25 applicants outside the main sample yielded a Cronbach's alpha of 0.83, confirming internal consistency. Face and content validity were confirmed by the expert panel, with two items revised following pilot feedback.

### Data Collection and Analysis

Data collection was conducted over a four-week period in March and April 2024, with trained research assistants recruiting participants at each NIS office during peak application periods. Of 380 questionnaires distributed, 312 were returned and valid, yielding an 82.1% response rate. Data were analysed using SPSS version 25. Descriptive statistics characterised satisfaction levels across service dimensions. Pearson product-moment correlation examined associations between system quality dimensions and overall satisfaction. One-way ANOVA tested for statistically significant differences in satisfaction across the three applicant locations, with post-hoc Tukey tests identifying the source of significant differences. Statistical significance was set at  $p < .05$ .

## Results

### Demographic and Application Profile of Respondents

Table 1 summarises the demographic and application characteristics of the 312 respondents. Male applicants constituted 58.7% of the sample, reflecting the slightly male-skewed gender distribution of Nigerian passport applicants. The majority were aged between 25 and 44 years (63.8%), consistent with the passport-seeking age profile of working adults. First-time applicants accounted for 31.7% of the sample, with renewal applicants comprising 68.3%. Educational attainment was predominantly at undergraduate level or higher (71.8%), suggesting that the sample had above-average digital literacy relative to the general Nigerian population, a factor that may conservatively bias satisfaction scores upward.

**Table 1: Demographic and Application Profile of Respondents (N = 312)**

Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	183	58.7
	Female	129	41.3
Age (years)	18–24	44	14.1
	25–34	112	35.9
	35–44	87	27.9
	45 and above	69	22.1
Application Type	New Application	99	31.7
	Renewal	213	68.3
Education	Secondary/below	88	28.2
	Undergraduate/Diploma	149	47.8
	Postgraduate	75	24.0
Location	Enugu	98	31.4
	Lagos	112	35.9
	Abuja (FCT)	102	32.7

*Source: Field Survey, 2024*

### Satisfaction Across E-Passport System Dimensions

Table 2 presents respondents' satisfaction ratings across the primary service dimensions of the NIS e-passport system. Overall satisfaction was moderate ( $M = 3.09$ ,  $SD = 0.82$ ), reflecting a population that rates the system as marginally acceptable but does not regard it as highly effective. Online application accessibility received the highest rating ( $M = 3.41$ ,  $SD = 0.79$ ), followed by payment portal functionality ( $M = 3.27$ ,  $SD = 0.83$ ). In contrast, processing time received the lowest overall rating ( $M = 2.54$ ,  $SD = 0.91$ ), followed by technical reliability of the

online platform ( $M = 2.67$ ,  $SD = 0.88$ ) and physical office waiting experience ( $M = 2.71$ ,  $SD = 0.94$ ). These findings suggest that whilst the e-passport system's online front-end is perceived as relatively functional, the downstream processing and physical service delivery dimensions substantially undermine overall satisfaction, consistent with the DeLone and McLean model's emphasis on service quality as a critical satisfaction determinant.

**Table 2: Citizen Satisfaction Ratings Across E-Passport System Dimensions (N = 312)**

Service Dimension	Mean (M)	Std Dev (SD)	Satisfaction Level
Online application accessibility	3.41	0.79	Moderate-High
Payment portal functionality	3.27	0.83	Moderate-High
Clarity of information on portal	3.19	0.86	Moderate
Staff responsiveness at office	2.89	0.92	Moderate-Low
Physical office waiting experience	2.71	0.94	Low
Technical reliability of platform	2.67	0.88	Low
Processing and collection time	2.54	0.91	Low
Overall E-Passport System Satisfaction	3.09	0.82	Moderate

*Source: Field Survey, 2024. Scale: 1 = Very Dissatisfied, 5 = Very Satisfied*

### Correlation Analysis: System Quality and Satisfaction

Pearson correlation analyses examined the relationships between individual service quality dimensions and overall satisfaction. Processing time was the most strongly correlated with overall satisfaction ( $r = 0.68$ ,  $p < .001$ ), followed by technical platform reliability ( $r = 0.62$ ,  $p < .001$ ) and staff responsiveness ( $r = 0.59$ ,  $p < .001$ ). Online application accessibility, whilst receiving the highest mean satisfaction rating, exhibited a moderate correlation with overall satisfaction ( $r = 0.44$ ,  $p < .001$ ), suggesting that positive experiences at the online application stage do not fully compensate for negative experiences at processing and physical service stages. Table 3 presents the full correlation matrix.

**Table 3: Correlation Between Service Dimensions and Overall Satisfaction (N = 312)**

Service Dimension	r (Overall Satisfaction)	p-value
Processing and collection time	0.68	< .001
Technical reliability of platform	0.62	< .001
Staff responsiveness at office	0.59	< .001
Physical office waiting experience	0.57	< .001
Clarity of information on portal	0.51	< .001
Payment portal functionality	0.47	< .001
Online application accessibility	0.44	< .001

Source: Field Survey, 2024. All correlations significant at  $p < .001$

#### ANOVA: Satisfaction Differences Across Locations

A one-way ANOVA revealed a statistically significant difference in overall satisfaction levels across the three applicant locations,  $F(2, 309) = 14.73, p < .001$ . Post-hoc Tukey tests identified significant differences between Enugu and Lagos ( $p < .001$ ) and between Enugu and Abuja ( $p = .003$ ), with no significant difference between Lagos and Abuja ( $p = .412$ ). Enugu applicants reported the lowest overall satisfaction ( $M = 2.74, SD = 0.87$ ), whilst Lagos applicants reported the highest ( $M = 3.31, SD = 0.76$ ), and Abuja applicants reported intermediate satisfaction ( $M = 3.22, SD = 0.83$ ). These geographic differences are consistent with the infrastructure asymmetry hypothesis: Enugu's lower broadband penetration and more limited physical NIS office capacity relative to Lagos and Abuja are likely to translate into longer processing times and higher rates of technical difficulties, producing the observed satisfaction deficit.

#### Discussion

##### Moderate Overall Satisfaction and its Structural Determinants

The overall satisfaction mean of 3.09 indicates that the NIS e-passport system has achieved a threshold level of citizen acceptance but falls well short of the service quality standards associated with effective e-governance in comparable economies. This finding is consistent with the broader assessment of Nigerian e-governance performance in the 2022 UN e-governance survey, which ranked Nigeria 140th globally, reflecting a system that has implemented basic digital services without achieving the deep integration, reliability, and equity necessary for high citizen satisfaction (PMC, 2023). The DeLone and McLean IS Success Model's framework predicts that system quality and service quality are jointly necessary for high user satisfaction; the NIS e-passport data confirms this prediction, since the system's relatively positive online front-end scores are insufficient to offset the strongly negative processing time and reliability scores that ultimately govern citizens' holistic service assessments.

##### Processing Time as the Dominant Satisfaction Driver

The strongest correlation between processing time and overall satisfaction ( $r = 0.68$ ) is theoretically significant, as it indicates that citizens evaluate the e-passport system primarily through the lens of what it was designed to improve: the elimination of the extended waiting periods that characterised the pre-digital system. Where processing

time improvements have not materialised at the scale promised, the system's legitimacy is undermined regardless of improvements in online accessibility or payment functionality. This finding resonates with the IRE Journals (2024) observation that the NIS e-passport system continues to exhibit processing times inconsistent with its digital efficiency objectives, partly because passport printing and quality assurance processes remain partially manual. The persistence of manual stages within an ostensibly digital system creates bottlenecks that no improvement in the online application portal can resolve, confirming the argument that e-governance performance depends on end-to-end digital integration rather than selective front-end automation.

### **Geographic Inequality in E-Governance Performance**

The statistically significant satisfaction gap between Enugu and the two metropolitan centres ( $p < .001$ ) provides empirical confirmation of the spatial inequality in e-governance performance that the infrastructure literature predicts but has not previously documented in the NIS context. Enugu applicants' lower satisfaction ( $M = 2.74$ ) reflects the compound disadvantage of lower broadband connectivity, higher system down-time rates at regional NIS offices, and fewer physical service points relative to the volume of demand. This geographic inequality constitutes a social equity problem as well as a service efficiency problem: it means that citizens in less-connected regions are systematically denied the service improvements that e-governance promises, reproducing rather than correcting the geographic inequalities that already characterise Nigerian public service access. The evidence from the present study thus complicates celebratory narratives of NIS digital transformation by revealing that the system's benefits are concentrated in areas of pre-existing infrastructure advantage.

### **The Persistence of Manual Process Integration**

A cross-cutting finding from the correlation analysis is that the strongest satisfaction predictors are all associated with the physical and manual stages of the e-passport process, specifically processing time, office waiting experience, and staff responsiveness, rather than the digital stages. This pattern is consistent with TAM's prediction that perceived usefulness determines adoption, but extends it to reveal that in hybrid digital-manual systems, citizens' evaluations of usefulness are governed by the weakest links in the service chain rather than its strongest. Where the digital front-end is well-designed but the physical back-end remains inefficient, the e-governance system fails to achieve its promise from the citizen's perspective. The implication for NIS is that investment in the online platform must be matched by equivalent investment in the operational processes that follow online application submission, including passport printing capacity, courier or collection infrastructure, and staff training in customer-oriented service delivery.

### **Conclusion**

This study delivers the first systematic, multi-city empirical appraisal of citizen satisfaction with the NIS e-passport system, demonstrating that whilst the system's digital front-end components achieve moderate approval, the processing, reliability, and physical service dimensions that govern overall citizen experience remain substantially below the standards expected of an effective e-governance instrument. Theoretically, the findings validate the DeLone and McLean IS Success Model's multi-dimensional framework as an appropriate lens for appraising public-facing e-governance systems in developing country contexts, whilst extending it to document the specific service quality deficits that most powerfully constrain system satisfaction. The geographic ANOVA findings contribute an important spatial equity dimension to the model, demonstrating that infrastructure inequality mediates the distribution of e-governance benefits in ways that the original model does not account for. Future research should employ longitudinal survey designs to track changes in satisfaction as NIS digital infrastructure investments take effect, conduct qualitative studies with frontline NIS staff to understand operational bottlenecks from the service provider perspective, and extend the geographic scope of the analysis to rural and peri-urban passport offices where satisfaction deficits are likely to be most pronounced.

## Recommendations

The Nigeria Immigration Service must invest substantially in the operational infrastructure that governs the post-application stages of the e-passport process, specifically passport printing capacity, quality assurance automation, and collection logistics, since the evidence identifies processing time as the dominant driver of citizen dissatisfaction. Improvements in online application accessibility are insufficient to raise overall satisfaction where downstream processing remains inefficient. The NIS should benchmark its processing time standards against comparable immigration services in East Africa, where e-passport systems in Tanzania and Kenya have achieved meaningful reductions in turnaround time through end-to-end process automation, and develop a time-bound implementation plan for closing the processing time gap.

The Federal Ministry of Communications and Digital Economy and the Nigerian Communications Commission should treat the geographic equity of digital public service access as a policy priority, with targeted investments in broadband infrastructure and NIS office capacity in secondary and tertiary cities, including Enugu, which exhibits the largest satisfaction gap relative to metropolitan centres. The 45% national broadband penetration documented by the Nigerian Communications Commission (2023) is insufficient for the equitable delivery of e-governance services, and the concentration of internet infrastructure in Lagos and Abuja systematically disadvantages citizens in other regions. Universal service obligations for broadband providers should be enforced and extended to include coverage of government service access points.

The Federal Government should mandate the National Information Technology Development Agency to develop a comprehensive e-passport system digital literacy programme, delivered through NIS offices, local government service centres, and community education channels, targeting citizens with limited digital competencies. The evidence that online application accessibility receives relatively positive ratings from an above-average digital literacy sample suggests that the system may perform poorly for lower-literacy applicants who fall outside the sample's educational profile. Addressing this literacy gap is a precondition for the equitable distribution of e-passport system benefits across the full population of passport applicants.

The NIS should implement a continuous citizen feedback mechanism, accessible through the passport application portal, physical office feedback stations, and mobile SMS surveys, to enable real-time monitoring of satisfaction levels and early detection of service quality deterioration. The existing absence of systematic performance monitoring from the citizen perspective, which the present study identifies as a gap in the NIS governance framework, means that management decisions are made without reliable evidence on how citizens experience the service. The implementation of real-time performance monitoring would also create accountability for service quality improvement targets, connecting operational performance data to management incentive structures.

Future researchers should address the methodological limitations of the present study by employing mixed-methods approaches that combine citizen survey data with qualitative field observations of NIS office processes and interviews with both applicants and service delivery staff. Ethnographic or process-mapping studies of the physical stages of e-passport processing would provide the operational detail necessary to identify specific intervention points within the service chain, translating aggregate satisfaction data into actionable process redesign recommendations. A comparative study of e-passport system satisfaction across all six geopolitical zones would provide a nationally representative basis for identifying the full range of geographic, infrastructural, and institutional factors that shape service quality variation across the country.

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