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EXAMINING PUBLIC SERVANTS' DIGITAL INTERACTIONS: THE CASE OF E-GOVERNMENT IN KADUNA STATE

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Abstract
This study examines the digital interactions of public servants within the e-government ecosystem of Kaduna State and provides a human-centred perspective on Nigeria's digital transformation. Based on a thematic analysis of semi-structured interviews with 14 civil servants, the study explores how training, risk perceptions and user expectations influence daily interactions with e-government platforms. While the training programmes strengthened initial trust, gaps in practical application and relevance limited their long-term effectiveness. Widespread concerns about data protection and system security further undermined trust in the platforms. Furthermore, complex interfaces and limited support structures often left users' expectations unfulfilled, which stood in the way of sustainable use. **Unlike previous studies that have largely adopted quantitative models to assess e-government adoption in Nigeria, this paper takes a qualitative, experience-based approach that captures the nuanced, lived realities of public servants who implement and maintain these systems. By embedding the findings in the Unified Model of Electronic Government Adoption (UMEGA), the study not only validates theoretical constructs but also extends them by emphasising practical issues of training relevance, data security, and usability in the Nigerian public sector context.** The results show a differentiated picture of digital administration in practise and call for more contextual training, improved usability, robust data protection and ongoing support to promote trust and optimise adoption. The study focuses on the experiences of public servants in Kaduna State and provides actionable insights to improve the delivery of digital public services in Nigeria and other developing countries.

Keywords: Public servants, Digital interactions, E-government, Kaduna State, Training, User experience, Governance

1.0 Introduction

The digital transformation of public administration has redefined how governments interact with their citizens, employees, and institutions. E-government, in its broadest sense, refers to the strategic use of digital technologies, particularly the internet and ICT tools, to improve governance processes, enhance efficiency, and make public service delivery more transparent, accountable, and citizen-centred. Conceptually, it represents a shift from traditional bureaucratic models to innovative, technology-driven systems that emphasise accessibility, responsiveness, and inclusivity in governance.

The rapid advancement of digital technology has significantly changed the landscape of public administration around the world (Zindi, 2024). As governments strive to deliver more

efficient, transparent and citizen-centred services, e-government initiatives have become central tools of reform (Umar et al., 2025). Around the world, countries such as Estonia, South Korea and Singapore have successfully integrated e-government systems into their administrations, setting a global benchmark for innovation, efficiency and responsiveness in public service delivery (Omotayo et al., 2025).

However, the spread of e-government systems in developing countries, particularly in sub-Saharan Africa, has not kept pace with this global momentum. Many African countries continue to face significant barriers, including inadequate infrastructure, limited internet penetration, low digital literacy, and systemic issues such as bureaucratic resistance and insufficient funding (Abah & Nwokwu, 2019). While there has been commendable progress in Rwanda, Kenya and South Africa, where digital platforms have improved access to services and accountability, these cases remain the exception rather than the rule (Gartika & Widiyanto, 2024). Nigeria, the largest economy and the most populous country in Africa, has recognised the strategic potential of e-government through initiatives such as the National E-Government Master Plan and the Treasury Single Account (TSA). Nevertheless, the widespread adoption and meaningful utilisation of e-government platforms across states remains inconsistent and fraught with challenges (Ogu & Chukwurah, 2023).

Kaduna State occupies a special place in Nigeria's digital government landscape. As the first state to officially adopt e-government systems, Kaduna has sought to modernise administration by digitising processes such as budgeting, land administration and service delivery (Nnaji et al., 2023). The state's initiatives, including the Kaduna State Geographic Information System (KADGIS) and e-budgeting tools, demonstrate a commitment to transparency and efficiency (Patergiannaki & Pollalis, 2024). Yet despite this pioneering role, actual use of these platforms by the public servants who are expected to implement and maintain them remains inconsistent (Borghouts et al., 2021). Inadequate digital skills, limited training, data security concerns and a lack of continuous institutional support have undermined effectiveness (Gartika & Widiyanto, 2024).

Most of the existing literature on e-government adoption in Nigeria relies heavily on quantitative models that emphasise technological or organisational factors, often overlooking the human and experiential dimensions of digital engagement (Zindi, 2024). Studies commonly focus on constructs such as performance expectancy, effort expectancy, and facilitating conditions through structured surveys, but this approach risks reducing complex realities to abstract variables (Gartika & Widiyanto, 2024). As a result, there is limited empirical knowledge of how public servants the frontline implementers of e-government, actually experience, interpret, and negotiate these systems in their daily work. Without understanding these lived experiences, reforms risk being designed in ways that are technically sound but practically ineffective.

This gap creates a clear research problem, although Kaduna State is a pioneer in e-government initiatives, little is known about how its public servants engage with the platforms, how training prepares them for usage, how risk perceptions shape their trust, and how expectations align or clash with system realities. Addressing this problem is essential, because public servants' engagement determines whether digital reforms succeed or fail.

This study contributes originality by shifting the focus from the dominant quantitative, system-level analyses to a qualitative, human-centred investigation of public servants' digital interactions. Using the Unified Model of Electronic Government Adoption (UMEGA) as a framework, the study extends theoretical discussions by incorporating the lived experiences

of training effectiveness, perceived risks, and user expectations into the adoption discourse. This approach provides a richer, context-specific understanding of e-government in Kaduna State and generates actionable insights for policymakers, system designers, and administrators in Nigeria and other developing countries. Therefore, the purpose of this study is to examine how training, perceived risks, and user expectations shape the experiences of public servants in their interactions with e-government platforms in Kaduna State.

2.0 Literature Review

The literature review provides a comprehensive analysis of key concepts, theoretical frameworks and empirical studies related to e-government adoption, with a focus on the lived experiences of public servants in Kaduna State, Nigeria. This section examines the global landscape of e-government, the challenges of adoption in Africa and the specific context of Nigeria, with particular focus on Kaduna State. It also examines the Unified Model of Electronic Government Adoption (UMEGA) and its applicability to this study.

2.1 E-Government Characteristics

E-government is not simply the application of technology to government processes; it is a rethinking of how public administration functions in the digital era. Lee and Porumbescu (2019) emphasise that the efficiency, accessibility, transparency and accountability promised by e-government are enabled through the internet and ICT tools. However, these outcomes do not automatically materialise; they depend on how governments translate technology into practice. Borghouts et al. (2021), for instance, highlight the potential of e-government to enhance engagement between governments and the public, yet real-world evidence shows that such engagement often depends on whether platforms are designed with user needs in mind. Without that user-centred focus, digital systems risk replicating traditional bureaucratic obstacles in a new form.

Nugraha and Susanto (2022) stress the ability of ICT integration to streamline bureaucratic processes, minimise corruption and improve decision-making. While compelling, this perspective arguably underplays the political and institutional barriers that shape outcomes in many developing countries. Where entrenched bureaucratic culture resists change, the gains from technology adoption are often blunted. Similarly, Méndez-Rivera et al. (2023) describe e-government as transcending traditional administrative boundaries, creating systems that are inclusive and responsive. This conceptualisation is aspirational but reminds us that inclusion requires more than technological infrastructure; it requires deliberate strategies to avoid excluding those with low digital literacy or poor access to resources.

Abah and Nwokwu (2019) and Umar et al. (2025) both argue that the success of e-government depends on factors such as robust infrastructure, user-centred design, digital literacy and institutional support. These conditions highlight a critical reality: e-government is not a “plug and play” solution, but a reform process that is socially embedded and contextually mediated. Thus, examining how frontline actors public servants, actually use these systems is essential for understanding whether the conceptual promise of efficiency and transparency translates into practice.

2.1.1 E-Government: A Global Perspective

Globally, e-government has been positioned as a driver of administrative reform, with countries such as Estonia, Singapore and South Korea frequently cited as leading examples (Abah & Nwokwu, 2019). Estonia’s X-Road platform, which allows almost all public services to be accessed online, demonstrates how system-wide integration can transform governance (Zindi, 2024). However, Estonia’s success rests not only on technology but also

on strong institutional trust and a digitally literate population conditions that differ significantly from many developing contexts.

Singapore's Smart Nation Initiative and South Korea's digital government model are also celebrated for inclusivity and innovation (Nugraha & Susanto, 2022). Yet, while these cases showcase the benefits of long-term investment and coherent digital policy, they also reflect socio-economic environments with higher resources and capacity than those of sub-Saharan Africa. Nnaji et al. (2023) note that global successes are grounded in strategic investment, policy alignment and sustained user engagement, but even in advanced economies challenges persist. Zindi (2024) points to issues of data privacy, cybersecurity and equitable access problems that suggest digital governance is an evolving rather than a completed project.

Malodia et al. (2021) further argue that systems must be tailored to population needs, a lesson that resonates strongly for developing regions. In essence, while global leaders provide useful benchmarks, simply replicating their models may be insufficient. The challenge lies in adapting lessons to local realities where resources, digital literacy and institutional cultures vary.

2.1.2 E-Government in Africa

Across Africa, e-government has been embraced as part of the wider digital transformation agenda. Rwanda's Irembo platform, which simplifies access to over 100 services, is frequently cited as evidence of how technology can reduce bureaucracy and improve accountability (Ogu & Chukwurah, 2023). Similarly, Kenya's e-citizen portal has streamlined public services ranging from licence applications to tax payments (Omotayo et al., 2025). These examples show that, under supportive political and institutional conditions, e-government can deliver visible benefits.

However, such successes are not evenly spread. Omotayo et al. (2025) note that large segments of the population in Africa remain excluded due to inadequate infrastructure, low internet penetration and limited digital literacy. These barriers are particularly acute in rural areas. Abah and Nwokwu (2019) also point to political instability and resource scarcity as obstacles, while resistance to change within public bureaucracies further complicates implementation. Taken together, the literature suggests that African e-government systems operate in a context marked by inequalities, while they offer opportunities to transform governance, they risk deepening divides if issues of access and literacy are not addressed. Thus, Africa provides a mixed picture one of ambition and innovation on the one hand, and of persistent structural challenges on the other. Understanding this duality is critical to situating Nigeria's and Kaduna's experiences within the broader continental narrative.

2.1.3 E-Government in Nigeria

Nigeria's adoption of e-government has been guided by national strategies such as the National E-Government Masterplan. High-profile initiatives like the Treasury Single Account (TSA) and the Integrated Payroll and Personnel Information System (IPPIS) demonstrate the government's commitment to efficiency and accountability. These platforms have yielded tangible results, including reducing financial leakages and streamlining payroll management, which indicates that technology can indeed enhance transparency in a challenging governance environment (Abah & Nwokwu, 2019)

Yet, these achievements sit alongside deep-seated problems. Nnaji et al. (2023) highlight infrastructural deficiencies, particularly unreliable power and poor internet, that undermine consistent usage. More critically, data security and privacy concerns erode user trust in digital

systems. Omotayo et al. (2025) further emphasise the enduring digital divide, noting that marginalised and rural communities often remain excluded from digital governance benefits. These findings suggest that while Nigeria has policy ambition and flagship successes, the sustainability of e-government reform is threatened by infrastructural gaps, digital inequality and weak public confidence. For this reason, it is not enough to evaluate Nigeria's e-government at the policy level, it is equally important to examine how public servants themselves experience these systems in practice.

2.1.4 E-Government in Kaduna State

Kaduna State holds a distinctive position as Nigeria's pioneer in e-government adoption. With initiatives such as the Kaduna State Geographic Information System (KADGIS) and the e-budgeting platform, the state has signalled strong commitment to transparency and digital reform (Shafiu, 2021; Ogu & Chukwurah, 2023). These innovations position Kaduna as a national model for subnational digital governance. Nevertheless, implementation challenges persist. Ogu and Chukwurah (2023) report that inadequate training for public servants, infrastructural gaps and bureaucratic resistance have limited effectiveness. In addition, the voices of public servants reveal struggles with low digital skills and insufficient technical support. Shafi'u (2021) argues that these challenges underscore the need for user-focused strategies that reflect the lived experiences of those expected to use the platforms daily.

By situating Kaduna within both Nigeria's national agenda and Africa's broader digital landscape, it becomes clear that while the state is a pioneer, it still mirrors the contradictions of e-government in developing contexts, for instance, innovation at the policy level but uneven adoption at the operational level. This highlights why research focusing specifically on the experiences of Kaduna's public servants is both timely and necessary.

2.2 User Expectation and Lived Experience

User expectations are widely recognised as central to the acceptance of e-government platforms, since they shape how public servants perceive and interact with these systems. Ahmad and Dhoon (2024) stress the importance of expectation alignment, yet their focus is mainly on user satisfaction in general terms. In Kaduna State, expectations are often filtered through the realities of limited infrastructure and uneven digital literacy. Ilieva et al. (2024) highlight performance and effort expectancy as key determinants, but their model assumes a relatively stable technological environment. By contrast, the Nigerian context illustrates how weak systems and inconsistent connectivity complicate the link between expectation and actual usage. On the other hand, performance expectancy refers to the belief that e-government can improve efficiency, optimise processes and reduce administrative burden (Dash & Jain, 2025). When systems meet these expectations, public servants tend to adopt them willingly, as Ahmad and Dhoon (2024) suggest. However, Ilieva et al. (2024) show that unmet expectations through inefficiencies or technical failures undermine trust. This suggests that in fragile environments like Kaduna, performance expectancy may be more volatile than in advanced settings.

In the same vein, effort expectancy is equally critical. Tannady and Dewi (2024) emphasise ease of use as a predictor of adoption, but their study was conducted in consumer contexts. Applying their argument to public servants shows additional complexity, since these users may lack choice, they must use the systems regardless of difficulty. Ogu and Chukwurah (2023) confirm that varying digital literacy levels in Kaduna exacerbate usability issues. Sari et al. (2024) further warn that overly complex platforms discourage consistent use. This points to a gap in the literature: much of what is written assumes voluntary adoption, while in public administration, use is often mandated making usability even more decisive.

Ultimately, alignment between expectations and lived experience builds trust and promotes sustained engagement, while misalignment leads to scepticism and resistance (Ahmad & Dhoon, 2024). What remains underexplored, and what this study addresses, is how these dynamics play out when public servants operate in an environment marked by infrastructural weakness, limited training, and competing organisational pressures.

2.3 Training Programs

Training has been consistently identified as a cornerstone of e-government adoption. Iqbal and Sidhu (2022) argue that training shapes user perceptions and enhances confidence. Yet, their work assumes that training is well-tailored and continuous, an assumption not always borne out in practice. Ahmad and Dhoon (2024) similarly link effective training to usability perceptions, but their model does not account for contexts where training is generic, outdated, or overly theoretical.

In the same vein, Ilieva et al. (2024) provide evidence that hands-on and role-relevant training is most effective, which resonates with experiences in Kaduna where public servants often report frustration with training that lacks real-world application. Tannady and Dewi (2024) highlight how inadequate or overly abstract training discourages adoption, confirming that a mismatch between training design and user needs can exacerbate resistance. This reflects a broader pattern in Nigeria: training is sometimes treated as a formality rather than as a process of equipping employees with practical skills.

Additionally, Ogu and Chukwurah (2023) argue that user feedback should inform training design. This is particularly crucial in Kaduna, where digital literacy levels vary widely. A one-size-fits-all approach risks alienating those most in need of support. By aligning training with context-specific challenges such as intermittent internet, security concerns, or limited support systems programmes can become tools for empowerment rather than barriers to adoption. Thus, while the literature consistently affirms the role of adoption training, it often assumes optimal conditions. This study departs from that assumption by foregrounding the lived experiences of Kaduna's public servants, where the quality, relevance and delivery of training remain contested.

2.4 Unified Model of Electronic Government Adoption (UMEGA)

The Unified Model of Electronic Government Adoption (UMEGA) is widely cited as a comprehensive framework for understanding e-government uptake (Dwivedi et al., 2017). Its value lies in extending TAM and UTAUT by incorporating e-government–specific factors such as risk perception and social influence (Aytekin et al., 2022). However, most empirical applications of UMEGA are based on survey data, which risk oversimplifying nuanced realities. By contrast, this study applies UMEGA in a qualitative context, offering richer insights into how its constructs manifest in day-to-day practice.

Performance expectancy, a core UMEGA variable, reflects beliefs about job performance gains. Aytekin et al. (2022) and Dwivedi et al. (2017) stress its importance, yet findings from Kaduna suggest a tension, while public servants expect efficiency gains, frequent system glitches undermine these beliefs, turning optimism into frustration. This gap between expectation and reality shows why context-specific studies are necessary. Also, effort expectancy, linked to system ease of use, is similarly double-edged. Ilieva et al. (2024) and Dash and Jain (2025) argue that intuitive design promotes adoption, but these insights understate the consequences of poor usability in mandated-use contexts like Kaduna. Here, complexity is not simply an inconvenience; it directly affects productivity and morale.

Social influence is another UMEGA construct that merits closer examination. While Aytekin et al. (2022) and Dwivedi et al. (2017) emphasise its motivating potential, Sari et al. (2024) warn of the opposite, negative peer attitudes can spread resistance. Kaduna's hierarchical structures may magnify these dynamics, making leadership encouragement and peer support decisive. Similarly, facilitating conditions are also critical. Hanham et al. (2021) highlight the importance of resources and infrastructure, but Kaduna's context exposes what happens when these are weak, limited internet, inadequate IT support, and unstable electricity create friction that theory often underplays. Ahmad and Dhoon (2024) further note that resource gaps feed into broader trust issues, showing how technical and psychological barriers intertwine.

On the other hand, perceived risk is perhaps the most underdeveloped construct in the literature. While Aytekin et al. (2022) identify it as central, many studies treat it abstractly. In Kaduna, however, risks around data privacy and security are not hypothetical but immediate concerns. Patergiannaki and Pollalis (2024) argue for stronger safeguards, and this resonates with respondents' anxieties about breaches and unauthorised access. Altogether, UMEGA provides a robust starting point, but its application in Kaduna reveals the limitations of survey-based generalisations. This study advances the model by contextualising its constructs within lived experiences, showing how performance and effort expectations, social influence, facilitating conditions, and risk perceptions interact in a resource-constrained environment.

3.0 Methodology

In this study, a qualitative research design was used to examine the experiences of public servants with e-government platforms in Kaduna State, Nigeria. Semi-structured interviews were conducted to gain deeper insights into participants' perceptions of the effectiveness of the training programme, performance expectancy and users' expectations of e-government services (Shafiu, 2021). A purposive sampling technique was used to select participants with different levels of experience and exposure to e-government platforms (Thomas, 2022).

The interview data was transcribed and analysed thematically using NVivo software. NVivo facilitated the systematic organisation, coding and identification of themes and sub-themes, ensuring a rigorous and transparent analysis process (Shafiu, 2021). This qualitative approach provided a deep insight into the complexities of e-government adoption and utilisation and enabled the study to develop practical recommendations to improve user engagement and enhance public service delivery in Kaduna State.

3.1 Qualitative Results

The semi-structured interviews conducted with 14 public servants in Kaduna State provided valuable insights into their experiences with e-government platforms. Open-ended questions such as "How effective are the current training programmes for e-government services?" and "What challenges do you face in using e-government platforms?" stimulated in-depth discussions and allowed participants to share in detail the barriers and opportunities associated with e-government adoption (see Table 1). The thematic analysis of the interview data using NVivo software revealed three main themes: Training Effectiveness, Perceived Risks and User Expectations, each comprising several sub-themes (see Figures 1, 2 and 3)

The training effectiveness theme included two key sub-themes: content relevance and practical application. Participants confirmed that the training programmes addressed essential topics, but many expressed the need for updates to address current challenges. A recurring theme was the lack of practical training. Respondents noted that the theoretical content alone was not sufficient to prepare them for the practical use of eGovernment platforms. This

discrepancy between theoretical knowledge and practical application was cited as a major obstacle to the effective use of the systems.

Perceived risk was another important issue, centred on concerns about data security and privacy. Participants expressed concern about data breaches and unauthorised access to sensitive information, which undermined their confidence in e-government platforms. Concerns about data protection, particularly in relation to the handling of personal data and its confidentiality, were frequently expressed. Some respondents emphasised the need for clear and transparent policies to address these risks and increase user confidence.

The third theme, user expectations, included the sub-themes of expectations and reality and usability challenges. Many participants reported a significant discrepancy between their initial expectations of eGovernment platforms and their actual experience, particularly in terms of system performance and ease of use. Usability issues were frequently cited. Respondents described difficulties in navigating the platforms due to complex design and inadequate user guidance. These issues often led to frustration and less engagement with the systems.

The use of NVivo software enabled a systematic and rigorous analysis of the interview data and ensured that themes and sub-themes were accurately identified and categorised. The findings provide a nuanced understanding of the challenges faced by public servants in adopting e-government platforms and offer actionable insights for improving training programmes, addressing perceived risks and aligning system design with user expectations to improve service delivery outcomes in Kaduna State.

Table 1, Identified responses from different respondents from the interview

Interview Questions	Responses	Themes	Sub-Themes
1. How effective do you find the current training programs for e-government services?	1. "The training helped me understand how to access and utilize online resources for student registrations." 2. "It was beneficial, but I think more real-life scenarios would improve it."	Training Effectiveness	Content Relevance
2. What specific aspects of the training did you find most beneficial?	1. "The practical examples and hands-on sessions were particularly useful." 2. "The interactive discussions really clarified my doubts."	Training Effectiveness	Practical Application
3. Were there any areas of the training that you felt were lacking or insufficient? If so, please elaborate.	1. "The training provided basic knowledge, but didn't cover all aspects of the e-government system."	Training Effectiveness	Gaps in Training

	2. "A module on troubleshooting common issues would be helpful."		
4. How confident do you feel in using e-government platforms after completing the training?	1. "I feel more confident now, but there are still features I'm unsure about." 2. "I often refer back to the training materials."	Training Effectiveness	Confidence Level
5. What concerns do you have regarding the security of e-government platforms?	1. "I worry about data privacy; I wonder if personal information is secure" 2. "There's a fear that data is being compromised."	Perceived Risks	Data Security Concerns
6. Have you experienced any issues related to data privacy when using e-government services?	1. "I've heard of data breaches, which makes me hesitant to use these services." 2. "while I haven't personally risk issues experienced issues colleagues have shared concerns"	Perceived Risks	Privacy Issues
7. What measures do you believe should be taken to enhance the security of e-government platforms?	1. "Stronger encryption and clearer communication about data protection measures would help." 2. "Regular security audits and user awareness campaigns are essential."	Perceived Risks	Suggested Security Measures
8. How do you perceive the ease of use of e-government services?	1. "Stronger encryption and clearer communication about data protection measures." 2. "Regular security audits and awareness campaigns are needed."	User Expectations	Ease of Use
9. What challenges do you face when navigating e-government platforms?	1. "Technical glitches and a lack of comprehensive guides are frustrating."	User Expectations	Usability Challenges

	2. "Slow website performance affects work efficiency"		
10. Do you believe that user expectations are being met by the current e-government services? Why or why not?	1. "Not entirely; some services don't work as advertised." 2. "There's potential, but execution often falls short."	User Expectations	Expectations vs. Reality
11. How can the training programs be improved to better meet the needs of public servants?	1. "More hands-on training and post-training support are needed." 2. "Incorporate practical exercises and case studies."	Training Effectiveness	Improvement Suggestions
12. What additional support would you like to see after completing your training?	1. "I would like have readily available support system in case of challenges." 2. "I would like to receive feedback about my performance after the training."	Training Effectiveness	Ongoing Support
13. How often do you use e-government services in your daily work?	1. "I use them daily for various tasks, but there are days when I encounter issues that hinder my work." 2. "I rely on these services multiple times a week."	User Engagement	Frequency of Use
14. What recommendations would you make to optimize e-government services for public servants in Kaduna State?	1. "Improving usability and ensuring regular updates would enhance our experience." 2. "Provide training on new features regularly."."	Recommendations	Service Optimization

Table 1 provides a detailed summary of the responses from the semi-structured interviews with 14 public servants on their experiences with e-government services in Kaduna State. Each interview question was formulated to provide detailed insight into critical aspects of e-government usage such as effectiveness of training programmes, perceived risks, user expectations and suggestions for improvement. The responses were systematically organised into relevant themes and sub-themes to provide a structured framework for analysing the qualitative data.

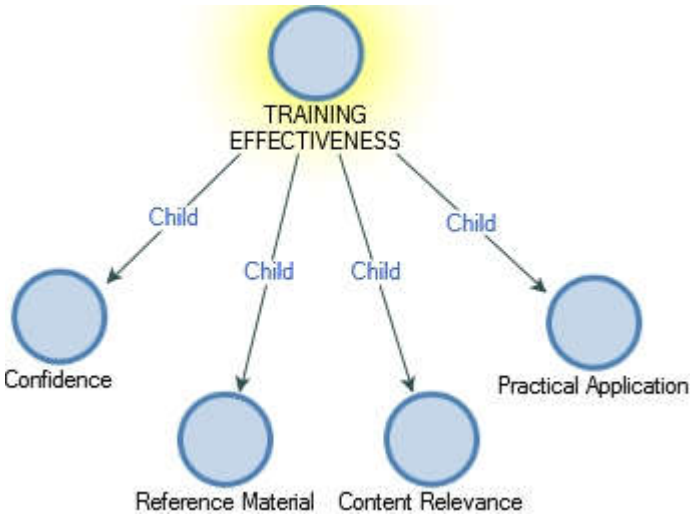


Figure 1: Training effectiveness

When evaluating the effectiveness of training programmes, for example, respondents gave mixed feedback. Some participants emphasised the benefits of the hands-on training and practical examples, highlighting how these elements had increased their confidence in navigating e-government platforms. One participant stated, "The training helped me understand how to access and use online resources for student enrolment," while another noted, "When evaluating the effectiveness of training programmes, respondents had mixed opinions. Some participants emphasised the value of hands-on training and practical examples, noting that these components significantly increased their confidence in using e-government platforms. For example, some of the participants stated, “I would like to have a support system that is immediately available in case of problems," while others added, “I would like to receive feedback on my performance after the training.” This suggests that the improvement of public servants in terms of using e-government services should not end with the training received, but that there should be room for continuous improvement through a system of ongoing support platforms.

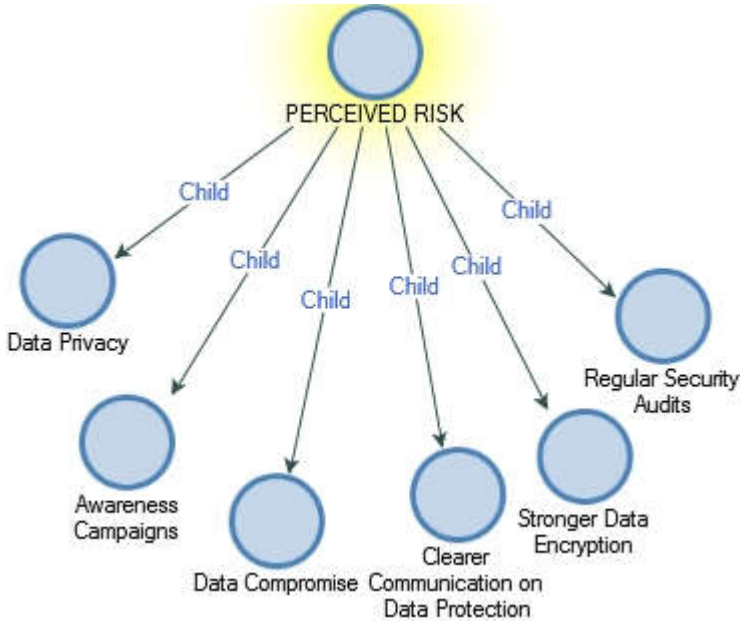


Figure 2: Perceived risk

The topic of "perceived risks" took centre stage, with respondents expressing concern about the security of e-government platforms. One respondent said: "I worry about data protection; I often wonder if my personal data is safe when using these platforms." These concerns are a major barrier to the adoption of e-government services and emphasise the importance of introducing stronger security measures and improving the transparency of data protection policies. Respondents also suggested additional security measures, such as regular audits and user awareness campaigns, to mitigate these risks.

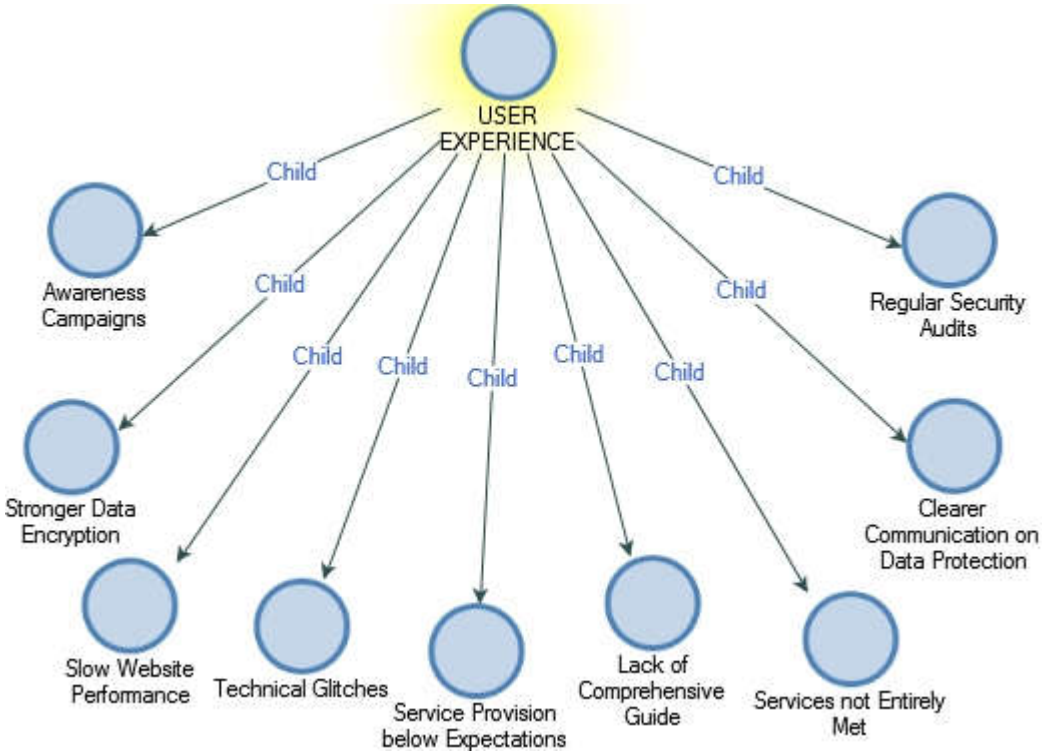


Figure 3: User experience

User expectations were another important topic mentioned in the responses. While some respondents felt that e-government platforms were generally accessible, others reported problems with usability, indicating a gap between their expectations and the reality of using these services. As one interviewee noted, "some platforms are user-friendly, but others are quite complex and not intuitive"," emphasising the importance of developing systems that meet the different needs and digital literacy of users. Sub-themes such as 'ease of use' and 'expectations vs. reality' summarise these findings and highlight the gap between user expectations and the actual functionality of e-government platforms.

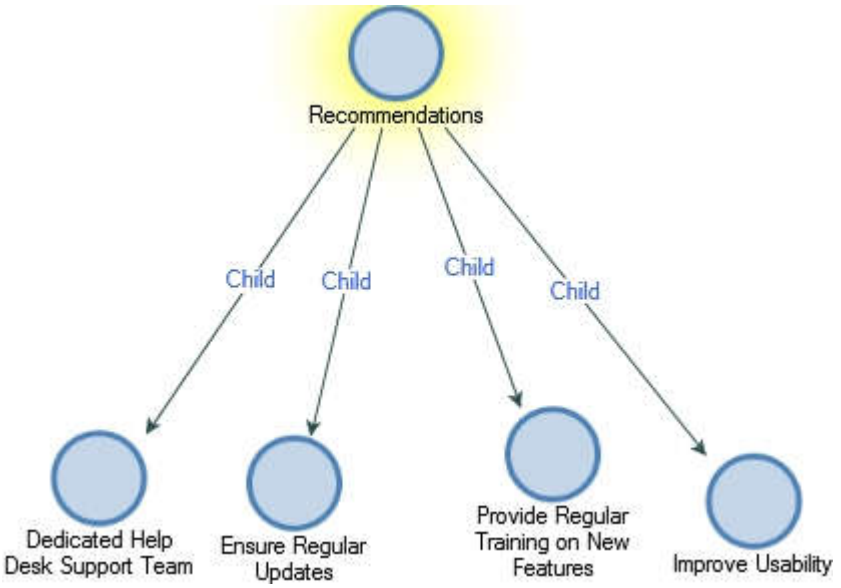


Figure 4: Recommendations

Finally, the table contains the respondents' recommendations for improving e-government services in Kaduna State. Their suggestions included improving the user-friendliness of the platform, offering more comprehensive training with hands-on exercises, and providing continuous support through dedicated helpdesks or follow-up sessions. For example, one participant recommended, "More hands-on practise and post-training support would be beneficial," while another emphasised, "Improving the usability of the platforms and ensuring regular updates would improve our experience." These recommendations provide actionable insights into the challenges faced by public servants and improve both e-government adoption and service delivery.

The qualitative data obtained from the interviews therefore provide a detailed understanding of the factors influencing e-government adoption and efficiency of public service delivery in Kaduna State. By addressing the issues of training effectiveness, perceived risks and users' expectations, this study provides valuable insights for improving e-government systems and promoting greater adoption among public servants in order to provide an effective and workable recommendation.

3.2 Discussion

The responses of public servants revealed diverse experiences with e-government platforms, reflecting their varying roles and interactions with the system. Many participants expressed satisfaction with the training programmes, noting that they had improved their ability to navigate and use e-government services effectively. For instance, an administrative officer from the Ministry of Finance explained that the training boosted confidence in handling online student enrolment, while a programme manager from the Ministry of Health emphasised the relevance of practical examples to daily tasks. These responses underscore the importance of tailored and practice-oriented training in building competence. Unlike much of the literature that assumes training automatically translates to adoption for example, Iqbal & Sidhu (2022), their study shows that effectiveness depends not just on training provision but on its contextual relevance and role-specific design.

Not all feedback was positive, however. Some participants identified significant gaps in the training programmes, particularly the lack of hands-on practice and inadequate coverage of

system functions. An IT specialist admitted uncertainty about several features, while a senior manager described the difficulty of retaining knowledge without practice. These insights highlight a nuance often missing from previous research: while many studies affirm the necessity of training (Ilieva et al., 2024; Ahmad & Dhoon, 2024), few explore the mismatch between theoretical content and practical application in the Nigerian public sector. By surfacing this gap, the study contributes original evidence that adoption is limited not by the absence of training but by the insufficiency of training design.

Concerns about data security and privacy also emerged strongly. Several respondents reported anxiety over data protection and the lack of clear communication on government safeguards. These concerns echo global studies emphasising risk perception as a barrier to adoption (Aytekin et al., 2022; Patergiannaki & Pollalis, 2024), but the present findings go further by illustrating how silence or ambiguity in government communication amplifies mistrust. Thus, while earlier studies identify security as a technical issue, this study demonstrates that it is equally a communication and trust-building issue, particularly in developing contexts where citizens and employees already perceive governance as fragile.

The third theme concerned user expectations, where discrepancies between anticipated efficiency and actual system performance were common. Participants reported usability challenges, complex interfaces, and limited guidance, all of which created frustration. This finding refines the arguments of Ahmad and Dhoon (2024) and Ilieva et al. (2024), who link expectation–experience alignment with trust. In Kaduna, the study shows that misalignment is not only an adoption barrier but also a potential source of resistance among public servants mandated to use the systems. This insight contributes to the literature by shifting the debate from voluntary adoption (typical in many UTAUT-based studies) to mandatory-use settings where dissatisfaction directly undermines service delivery.

Taken together, these findings contribute to literature in several ways. First, they extend the discourse on **training effectiveness**by showing that contextualisation, role-specificity, and practice-based methods are more decisive than training frequency alone. Second, they advance the discussion on **risk perception** by identifying communication transparency not just technical safeguards, as a critical determinant of trust. Third, they refine the concept of **user expectations** by situating it in a compulsory-use environment, thereby exposing a dimension underexplored in studies largely drawn from voluntary consumer contexts. These contributions highlight the originality of this study and provide evidence that e-government adoption must be analysed not only through technical or organisational lenses but also through the lived realities of frontline public servants.

4.0 Conclusion

This study has examined the lived experiences of public servants in Kaduna State with e-government platforms, focusing on training effectiveness, perceived risks, and user expectations. The findings present a clear picture emphasising that training is indispensable for building confidence and competence, but its current form is inadequate. While respondents valued initial exposure to digital platforms, the lack of practical, role-specific, and continuous training left significant gaps. This shows that adoption is not hindered by the absence of training, as some prior studies have implied, but by training that fails to equip public servants for real-world use.

The study also reveals that concerns about data security and privacy are not peripheral but central to adoption. Fear of breaches and lack of transparent government communication consistently undermined trust in the platforms. This extends existing literature by

demonstrating that security is as much a communicative and institutional issue as it is a technical one. Without visible and consistent assurances of data protection, even well-designed systems will struggle to gain sustained acceptance.

Furthermore, the study highlights that user expectations are a decisive determinant of adoption. When systems deliver efficiency and usability, expectations are met and trust is reinforced. However, when platforms are cumbersome or unreliable, dissatisfaction quickly emerges. Unlike contexts where adoption is voluntary, public servants in Kaduna are mandated to use these systems, making expectation–experience gaps more damaging: they not only reduce adoption enthusiasm but also erode morale and service delivery quality.

Taken together, these findings contribute to the literature by reframing three key issues. First, they establish that **training must be practical, contextual, and continuous** to truly drive adoption. Second, they demonstrate that**perceived risk must be managed through communication as well as technology**. Third, they show that **expectation alignment is particularly critical in mandatory-use environments**, a dimension often overlooked in previous studies. From a policy and practice perspective, the study recommends that Kaduna State and other governments invest in hands-on, user-driven training, strengthen data security frameworks with transparent communication, and design systems that reflect the everyday needs and literacy levels of public servants. Conclusively, this research underscores that the success of e-government reform does not rest solely on technology, but on the experiences, trust, and expectations of the people tasked with implementing it.

4.1 Recommendation

To improve the adoption and effectiveness of e-government platforms among public servants in Kaduna State, several actionable recommendations are proposed. First, training programmes should be tailored to the specific needs and responsibilities of public servants. This includes ensuring the relevance of content, incorporating hands-on exercises and providing troubleshooting modules to improve participants' ability to use e-government systems effectively. In addition, follow-up training and refresher courses should be introduced to reinforce what has been learnt and adapt to evolving technological updates. Secondly, robust data security and privacy measures are essential to mitigate perceived risks. The government should utilise encryption technologies, conduct regular security audits and clearly communicate security protocols to increase user confidence. Equally important are awareness campaigns for secure practises and the government's commitment to data protection.

Improving the usability of platforms is another priority. E-government systems should be equipped with user-friendly interfaces to cater for different levels of digital literacy. Regular usability tests with input from public servants can help to identify and solve navigation problems. Platforms should also be optimised to minimise technical glitches and ensure reliability. Ongoing support mechanisms are also crucial for sustained engagement. Dedicated help desks or support teams should be set up to provide timely assistance, while user guides, frequently asked questions and interactive tutorials should be made available to facilitate problem solving. Feedback channels can be set up for officers to report problems and make suggestions for improvement.

To align systems with user expectations, the needs and experiences of officers should be regularly assessed through surveys or interviews. The results of these assessments can be incorporated into system updates to ensure alignment with user needs and promote trust. Transparency about the goals, capabilities and limitations of e-government platforms can also

help to effectively manage expectations. Finally, awareness of e-government should be raised through targeted campaigns that emphasise the benefits of digital administration. Success stories and positive outcomes should be highlighted to encourage wider adoption and create a culture of engagement among public servants. By implementing these recommendations, policy makers and practitioners can address the challenges identified in this study, leading to improved usability, greater trust and adoption of e-government platforms in Kaduna State and ultimately improved public service delivery.

4.2 Limitations and Further Studies

This study has certain limitations. First, it focuses exclusively on public servants in Kaduna State, which may limit the generalisability of the findings to other states or regions in Nigeria with different socio-economic and infrastructural conditions. While the qualitative approach of the study provided rich and detailed insights, it relied on a purposive sample of 14 public servants, which may not fully capture the diverse experiences of all e-government users in the state. In addition, the use of self-reporting in the interviews may introduce bias, as participants may have given socially desirable answers or omitted certain details. Finally, the study focused on three main themes: Training effectiveness, perceived risks and user expectations. This may have overlooked other important factors such as organisational culture or political influences, which may also have an impact on e-government adoption.

Future research should therefore address these limitations through a broader scope and mixed methods approach. Expanding the geographical scope to multiple states or regions in Nigeria would allow for comparative analysis and provide a more comprehensive understanding of e-government adoption at the national level. In addition, the inclusion of quantitative methods, such as surveys with larger samples, could complement the qualitative findings and improve the generalisability of the results. In addition, future studies could examine the influence of organisational culture, leadership support and the policy framework on the adoption of e-government. Investigating the long-term impact of improved training programmes and enhanced security measures on the use of e-government platforms by civil servants would also be valuable. Finally, examining the experiences of citizens interacting with e-government platforms could provide a holistic perspective on the effectiveness of these systems in delivering public services.

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