

Impact of Digital Tools and Government Initiatives on Citizen Engagement and Service Delivery in Yobe State

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Abstract

This study investigates the impact of digital tools and government initiatives on enhancing citizen engagement and improving service delivery in Yobe State. Specifically, the research aims to assess the effectiveness of digital tools in enhancing citizen engagement, evaluate the impact of digital government on service delivery, and identify challenges encountered in the implementation of digital initiatives. A descriptive research design of survey type was adopted for the study, targeting residents from three local government areas representing three zones in Yobe State. The sample size of 370 respondents was drawn using a sample size calculator, with data collected through self-constructed questionnaires administered by the researcher and two research assistants. Data analysis was conducted using frequency count and simple percentages with the aid of Statistical Package for the Social Sciences (SPSS). The findings reveal that the majority of respondents were male, aged 30 to 39, with diverse educational backgrounds, and civil servants constituted a significant portion of the sample. Digital tools significantly improved citizen engagement with government services, particularly through social media platforms, leading to increased satisfaction levels. The implementation of digital initiatives, such as online payment systems and electronic document management systems, resulted in positive changes in the quality, efficiency, and accessibility of government services. However, challenges such as technical issues, lack of digital literacy among citizens, resistance to change among government employees, and insufficient infrastructure were encountered during implementation, highlighting the complexities associated with digital transformation in the public sector. In conclusion, the study underscores the transformative potential of digital tools in enhancing citizen engagement and improving service delivery in government. Recommendations are proposed to address challenges and maximize the benefits of digitalization, including investing in digital literacy programs, prioritizing infrastructure development, fostering stakeholder engagement, conducting continuous evaluations, and enacting supportive policies and regulations.

Keywords: *Digital tools, Government Initiative, E-governance, Citizen engagement, and Service delivery*

1. Introduction

E-governance originated in the United States in 1998, following a 1997 initiative by President Clinton to eliminate paperwork by 2000. Governments are now advancing into Web 2.0, with disparities in e-governance success across countries. For example, the U.S. leads in online citizen participation, while Taiwan excels in bridging the digital divide (Chen, Hsieh, 2009). In developing countries like Nigeria, e-governance is critical for accelerated development, particularly through Foreign Direct Investment, by improving efficiency, transparency, access to services, and reducing administrative costs (Dahiru et al., 2022). Nigeria adopted e-governance in 2000 under President Obasanjo's National Policy on Information Technology to enhance public service delivery (Olatokun & Adebayo, 2012). However, citizen engagement is key to e-governance success, and many projects in developing nations fail due to low engagement (Sakolkar, 2023). Digital governance fosters efficient, accessible services, improving citizen satisfaction and accountability (OECD, 2016). Governments leverage digital platforms to streamline services and promote transparency (Welby, 2019).

In Yobe State, digital governance initiatives aim to modernize administration and improve public services. The state's digital transformation seeks to bridge gaps between the government and citizens, fostering inclusive and responsive governance (Sedova et al., 2022). This research evaluates the impact of digital tools and initiatives on citizen engagement and service delivery in Yobe State, providing insights into enhancing digital governance strategies.

2. Statement of the Problem

In recent years, the global shift towards leveraging digital technologies to transform governance structures has gained momentum. Digital government initiatives, commonly referred to as e-government, aim to harness technological advancements to enhance efficiency, transparency, and citizen engagement in public administration. Yobe State, recognising the need for modernisation, has embraced digital governance as a strategy to improve public service delivery and increase citizen participation in decision-making processes.

This commitment aligns with global trends in digital transformation, where governments develop online platforms, and e-services, and utilise data analytics to optimise decision-making. However, as Yobe State implements these initiatives, there is a need to assess their impact on citizen engagement and the quality-of-service delivery. Understanding the effectiveness and challenges of these digital interventions in Yobe State is crucial for determining their success and sustainability within the local context.

3. Research Objectives

The main aim of this study is to explore the impact of digital tools and government initiatives on enhancing citizen engagement and improving service delivery in Yobe State. The specific objective includes to:

- i. Assess the effectiveness of digital tools in enhancing citizen engagement in Yobe State
- ii. Evaluate the impact of digital government on service delivery in Yobe State
- iii. Identify challenges encountered in the implementation of digital initiatives in Yobe State

4. Literature Review

Numerous studies have explored the diverse digital tools used for citizen engagement. Social media platforms like Twitter, Facebook, and Instagram have been widely studied due to their accessibility and role in enabling real-time communication between citizens and governments, fostering dialogue and information exchange (Dahiru et al., 2022). Additionally, online forums and communities are valuable for promoting deliberative democracy and allowing citizens to express views on policy issues (Welby, 2019). Mobile applications are also gaining popularity as tools for citizen participation, enabling users to access government services, provide feedback, and report issues in real time (Daub et al., 2020). Scholars and policymakers have noted the significant impact of digital platforms—such as e-government websites, mobile applications, and social media—on enhancing government-citizen interactions (Balta et al., 2015). These tools not only offer easy access to information but also enable two-way communication, promoting citizen participation in public discourse and decision-making.

Digital government initiatives have significantly transformed public service delivery by improving efficiency, reducing costs, and enhancing service quality (Dahiru et al., 2022). The integration of digital technologies allows governments to tailor services to meet diverse population needs, thereby increasing accessibility and citizen satisfaction. According to a UNDP (2016) report, citizen engagement offers several benefits for public officials. It enhances service delivery by leveraging citizens' knowledge, tapping into indigenous expertise, fostering innovative ideas, evaluating programs, and mobilizing additional resources. Additionally, citizen engagement protects public interests by curbing special interests and promoting participatory budgeting. It also strengthens legitimacy by aligning decision-making with shared values, fostering trust between the state and society. Moreover, it enhances accountability by defending meritocracy, reducing corruption through citizen monitoring, and improving grassroots service delivery.

Effective governance and implementation play crucial roles in shaping innovation policies, requiring trust in government actions and a commitment to learning from experience. This requires a strong institutional framework, robust evaluation capabilities, and the adoption of best practices. A capable and innovative public sector further boosts policy effectiveness. Integrating digital governance practices improves service delivery by streamlining processes, increasing transparency, and promoting efficiency in public sector operations (OECD, 2016).

Despite the numerous potential benefits, transitioning towards digital governance is often accompanied by challenges, including technical issues like inadequate infrastructure and cybersecurity threats, as well as operational challenges such as resistance to change among staff and low digital literacy among citizens (Nchuchuwe & Ojo, 2016). Addressing these challenges is crucial to fully realizing the benefits of digital initiatives for governance and service delivery.

The Organization for Economic Co-operation and Development (2003) outlines five key challenges for e-engagement: scalability of technology to amplify citizen voices while ensuring governments can respond effectively, fostering inclusive ICT-based deliberation, ensuring coherence in policymaking, evaluating the effectiveness of e-engagement efforts, and maintaining commitment at all government levels. Laksilu and Blandine (2022) emphasize that while digital transformation offers opportunities, it presents challenges, particularly for organizational leaders who must be aware of the obstacles.

Scholars like Welby (2019) and Dahiru et al. (2022) have noted that sectors such as education face challenges like inadequate resources, fear of change, and a lack of digital skills. Organizations

often struggle with limited budgets, lack of digital integration, data security issues, and resistance to change (Shahi & Sinha, 2021; Laksilu & Blandine, 2022). Leaders play a critical role in addressing these issues, as inadequate leadership or lack of vision can significantly impact the success of digital transformation (Hai et al., 2021; Sambamurthy & Zmud, 2017).

Moreover, the challenge of knowledge retention is crucial, as organizations often rely on individual knowledge rather than systematized digital assets. This can lead to knowledge gaps when key employees leave (Sambamurthy & Zmud, 2017). Acquiring the necessary skills is vital for digital transformation, as ineffective project management can derail progress and create gaps between digitally proficient employees and those unfamiliar with digital tools (Westerman et al., 2014). Overcoming these challenges requires both digital and leadership capabilities to ensure successful digital transformation (Westerman et al., 2014).

4.1 Theoretical Framework

The theoretical framework for this study is grounded in the principles of **New Public Management (NPM)**, a reformist approach to public administration introduced by Hood and Jackson in 1991. NPM emphasizes flexibility, transparency, and the reduction of bureaucratic inefficiencies, aiming to make government operations more responsive and efficient. Initially focused on financial control and a customer-oriented approach, NPM also encourages the adoption of corporate governance models and fosters interconnected networks among organizations.

NPM advocates for a shift from uniform, bureaucratic service provisions to more adaptable and diversified service offerings, marking a transition to modern organizational management. In Yobe State, applying the NPM framework can enhance government efficiency in public service delivery, aligning well with digital tools and government initiatives aimed at improving transparency, accountability, and responsiveness.

A core principle of NPM is commercialization, emphasizing the role of government in providing essential services to citizens and transforming the state-citizen relationship. This makes NPM particularly relevant to contemporary e-government efforts, which seek to leverage technology for governance reform. However, as scholars like Aucoin, Peters, Pierre, and Mathiasen highlight, the success of NPM in achieving its goals may depend on the specific institutional context and local governance structures.

5. Methodology

The study employed a descriptive survey design to gather objective views and perceptions from respondents regarding the impact of digital tools and government initiatives on citizen engagement and service delivery in Yobe State. This approach allows for diverse participant recruitment and data collection methods. The research was conducted in Yobe State, Nigeria, an agrarian region with a projected population of approximately 3,649,600 as at 2022. The state, created in 1991, consists of 17 Local Government Areas (LGAs) and has a diverse ethnic composition. The climate and soil type supports a variety of agricultural products. The study population included residents from three selected LGAs each from the three geopolitical zones of the state – Damaturu (137,500), Potoskum (322,100) and Bade (219,800). These areas reflect the state's diverse demographic, serving as a representative sample for the research. Using an online sample size calculator at a 95% confidence level and 5% margin of error, a sample size of 384

respondents was determined. A multi-stage cluster sampling technique was used, dividing the state into three clusters and selecting respondents through simple random sampling. Data was collected using a self-constructed questionnaire comprising four sections: demographic information and three sections aligned with the study's objectives. The researcher established a rapport with the community to facilitate data collection, administering 384 questionnaires with assistance from two research assistants. A total of 370 valid responses were obtained after excluding 14 invalid ones. Data analysis involved interpreting respondent answers concerning the research questions, using frequency counts and simple percentages with the aid of the Statistical Package for the Social Sciences (SPSS).

6. Result and Discussion

6.1 Analysis of the Socio-Economic and Demographic Characteristics of the Respondents

This section presented and analysed the socio-economic and demographic characteristics of the respondents in terms of age, sex, marital status, educational qualification, and income, this is shown in Table 6.1.

Table 6.1: Socio-Economic and Demographic Characteristics of Respondents

Sex	Categories	Frequency	Percentage (%)
	Male	198	53.5
	Female	172	46.5
Total		370	100
Age			
	20 – 29	98	26.5
	30 – 39	190	51.4
	40 – 49	54	14.6
	50 and above	28	7.6
Total		370	100
Educational Qualification			
	Islamic Education	174	47.0
	Primary	25	6.8
	Secondary	87	23.5
	Tertiary	84	22.7
Total		370	100
Employment Status			
	Self-Employed	70	18.9
	Civil Servant	260	70.3
	Unemployed	40	10.8
Total		370	100

Source: Field Survey, 2024

Table 6.1 above provides a breakdown of the socio-economic and demographic characteristics of the respondents in the study. Regarding gender distribution, the majority of respondents were male, accounting for 53.5% of the total, while females comprised 46.5%.

In terms of age distribution, the largest proportion of respondents fell within the age range of 30 to 39, representing 51.4% of the total sample, followed by those aged 20 to 29 (26.5%). Respondents aged 40 to 49 constituted 14.6%, while those aged 50 and above made up 7.6% of the total sample.

Looking at educational qualifications, the data reveals that the highest percentage of respondents had received Islamic education (47.0%), followed by those with secondary education (23.5%) and tertiary education (22.7%). Only a small proportion of respondents had primary education, accounting for 6.8% of the total.

In terms of employment status, the majority of respondents were civil servants, comprising 70.3% of the total sample. Self-employed individuals constituted 18.9% of the respondents, while the unemployed accounted for 10.8%.

6.2 Analysis of the Effectiveness of Digital Tools in Enhancing Citizen Engagement

This subheading deals with the analysis of data on the effectiveness of digital tools in enhancing citizen engagement in government. It covers the following themes - the level of engagement with government service before and after implementation of digital tools, digital tools mostly used to interact with government, Noticeable changes in the quality of government services due to digitalisation, satisfaction level of respondents on citizen engagement.

Table 6.2: Effectiveness of Digital Tools in Enhancing Citizen Engagement:

Themes	Categories	Frequency	Percentage (%)
Level of engagement with government services before the implementation of digital tools	Very low	120	32.43
	Low	80	21.62
	Moderate	75	20.27
	High	50	13.51
	Very high	45	12.16
	Total	370	100
Specific digital tools mostly used to interact with government services	Mobile applications	113	30.54
	Government websites	37	10.00
	Social media platforms	210	56.76
	Online chat services	10	2.70
	Total	370	100
Level of engagement with government services since the implementation of digital tools	Very low	75	20.27
	Low	76	20.54
	Moderate	124	33.51
	High	50	13.51
	Very high	45	12.16
	Total	370	100
Noticeable changes in the quality of government services after the implementation of digital tools	Yes	201	54.32
	No	169	45.68
	Total	370	100
Satisfaction with improvements in citizen engagement facilitated by digital tools	Not satisfied at all	76	20.54
	Slightly satisfied	124	33.51
	Moderately satisfied	50	13.51
	Very satisfied	75	20.27

Extremely satisfied	45	12.16
Total	370	100

Source: Field Survey, 2024

Table 6.2 above presents data on the effectiveness of digital tools in enhancing citizen engagement across several themes.

On the Level of engagement with government services before the implementation of digital tools; the data reveals that before the adoption of digital tools, a significant portion of respondents reported low to moderate levels of engagement with government services, with 32.43% reporting a very low level, 21.62% reporting a low level, and 20.27% reporting a moderate level. This suggests that traditional methods of engagement may have been insufficient in meeting the needs or expectations of citizens.

As for the specific digital tools mostly used to interact with government services; the analysis indicates a strong preference for social media platforms among respondents for interacting with government services, with 56.76% of respondents indicating social media as their preferred digital tool. Additionally, 30.27% of respondents reported using mobile applications, highlighting the potential of mobile technology in facilitating citizen-government interactions.

Regarding the level of engagement with government services since the implementation of digital tools: Following the implementation of digital tools, there appears to be a notable improvement in the level of engagement with government services, with 33.51% of respondents reporting a slightly satisfied level, 33.51% reporting a moderate level, and 13.51% reporting a high level. This suggests that digital tools have effectively enhanced citizen participation and involvement in government affairs.

Noticeable changes in the quality of government services after the implementation of digital tools; The majority of respondents observed positive changes in the quality of government services after the implementation of digital tools, with 54.32% indicating that they noticed improvements. This indicates that the adoption of digital tools has contributed to improvements in service delivery, potentially resulting in greater efficiency, transparency, and accessibility of government services.

Lastly, satisfaction with improvements in citizen engagement facilitated by digital tools: Respondents expressed varying degrees of satisfaction with the improvements in citizen engagement facilitated by digital tools, with 33.51% reporting being slightly satisfied, 13.51% moderately satisfied, and 20.27% very satisfied. This suggests that while digital tools have had a positive impact on citizen engagement, there is still room for improvement to meet the expectations of all citizens.

6.3 Analysis of the Impact of Digital Government on Service Delivery in Yobe State

This subheading presents the analysis of the impact of digital government on service delivery in Yobe State with a specific focus on the Quality and efficiency of government services before digitalization efforts, Specific digital initiatives undertaken to improve service delivery, Changes in the quality, efficiency, and accessibility of government services since digitalization efforts and Satisfaction with digitalized government services

Table 6.3: Impact of Digital Government on Service Delivery

Themes	Categories	Frequency	Percentage (%)
Quality and efficiency of government services before digitalization efforts	Poor	148	40.00
	Fair	102	27.57
	Good	80	21.62
	Very good	27	7.30
	Excellent	13	3.51
	Total	370	100
Specific digital initiatives undertaken to improve service delivery	Introduction of online payment systems	210	56.76
	Implementation of electronic document management systems	75	20.27
	Establishment of digital service centres	60	16.22
	Integration of AI-based solutions for citizen queries	25	6.76
	Total	370	100
Changes in the quality, efficiency, and accessibility of government services since digitalization efforts	Yes	230	62.16
	No	140	37.84
	Total	370	100
Satisfaction with digitalized government services	Not satisfied at all	79	21.35
	Slightly satisfied	81	21.89
	Moderately satisfied	111	30.00
	Very satisfied	59	15.95
	Extremely satisfied	40	10.81
	Total	370	100

Source: Field Survey, 2024

Table 6.3 presents the impact of digital government on service delivery, examining various aspects such as the quality and efficiency of government services before digitalization efforts, specific digital initiatives undertaken to improve service delivery, changes observed since digitalization efforts, and satisfaction levels with digitalized government services.

Before the implementation of digitalization efforts, respondents perceived government services with a varied degree of satisfaction. A significant portion rated the services as either poor (40.00%) or fair (27.57%), indicating considerable dissatisfaction with the quality and efficiency of services. This suggests a need for improvement in service delivery methods before the advent of digitalization initiatives.

Regarding specific digital initiatives aimed at enhancing service delivery, the most prominent initiative reported by respondents was the introduction of online payment systems (56.76%). This indicates a significant focus on facilitating financial transactions through digital platforms. Additionally, a considerable proportion of respondents highlighted the implementation of electronic document management systems (20.27%), emphasizing efforts to streamline administrative processes and enhance documentation practices.

Following the implementation of digitalization efforts, a majority of respondents (62.16%) reported noticing positive changes in the quality, efficiency, and accessibility of government services. This indicates that digitalization initiatives have had a discernible impact on improving service delivery standards, potentially leading to enhanced efficiency and accessibility for citizens.

Regarding satisfaction levels with digitalized government services, responses varied among respondents. While a notable portion expressed moderate satisfaction (30.00%) and slight satisfaction (21.89%), there were also significant percentages of respondents who reported being either not satisfied at all (21.35%) or very satisfied (15.95%). This suggests a mixed sentiment among respondents regarding the effectiveness and adequacy of digitalized government services, indicating areas where further improvements may be warranted to address varying citizen expectations and preferences.

6.4 Analysis of the Challenges Encountered in the Implementation of Digital Initiatives

Under this subheading, the issues related to the challenges encountered in the implementation of digital initiatives were presented which covers themes like - encountering challenges during the implementation of digital initiatives, specific challenges encountered during the implementation, and effectiveness of digital initiatives in overcoming these challenges.

Table 6.4: Challenges Encountered in the Implementation of Digital Initiatives

Themes	Categories	Frequency	Percentage (%)
Encountering challenges during the implementation of digital initiatives	Yes	220	59.46
	No	150	40.54
	Total	370	100
Specific challenges encountered during the implementation	Technical issues	81	21.89
	Lack of digital literacy among citizens	33	8.92
	Resistance to change among government employees	85	22.97
	Insufficient infrastructure	171	46.22
	Total	370	100
Effectiveness of digital initiatives in overcoming these challenges	Not effective at all	137	37.03
	Slightly effective	79	21.35
	Moderately effective	70	18.92
	Very effective	61	16.49
	Extremely effective	23	6.22
	Total	370	100

Source: Field Survey, 2024

Table 6.4 sheds light on the challenges encountered during the implementation of digital initiatives and the perceived effectiveness of these initiatives in addressing those challenges. Firstly, regarding the theme of encountering challenges during implementation, a significant majority (59.46%) of respondents reported facing obstacles, indicating a substantial hurdle in the digitalization process. Among these challenges, insufficient infrastructure emerged as the most prominent issue, with 46.22% of respondents identifying it as a major barrier. This highlights a critical need for investment in infrastructure development to support digital initiatives effectively. Additionally, resistance to change among government employees was cited by 22.97% of respondents, indicating potential organizational resistance to adopting new technologies.

Technical issues (21.89%) and lack of digital literacy among citizens (8.92%) were also significant challenges, emphasizing the importance of training and capacity-building programs.

Moving on to the effectiveness of digital initiatives in overcoming these challenges, the responses varied. While some respondents perceived the initiatives as effective, others expressed scepticism about their impact. Notably, 37.03% of respondents felt that the initiatives were not effective at all, signalling considerable dissatisfaction with the outcomes. This sentiment may stem from the persistence of challenges despite the implementation of digital solutions. On the other hand, a substantial proportion of respondents (21.35%) considered the initiatives to be slightly effective, suggesting incremental progress in addressing the identified challenges. Moreover, 18.92% of respondents deemed the initiatives moderately effective, indicating a moderate level of success in mitigating obstacles. However, it's noteworthy that only a minority of respondents (16.49% for very effective and 6.22% for extremely effective) perceived the initiatives as highly impactful, underscoring the need for further enhancements and refinements in digital strategies to achieve optimal results. Overall, the findings underscore the complex nature of digital transformation in the public sector, highlighting the importance of continuous evaluation and adaptation to overcome challenges effectively and maximize the benefits of digitalization.

7. Discussion of the Major Findings

The socio-economic and demographic characteristics of respondents indicate a predominantly male population and a youthful demographic, with the majority aged 30 to 39. This aligns with previous studies, such as those by Dahiru et al. (2022), which highlight the significance of understanding demographic factors in shaping digital preferences and behaviours. The variation in educational backgrounds, including substantial Islamic education, reflects the need for tailored digital initiatives, as noted by Welby (2019), who emphasizes the importance of considering diverse educational contexts in digital engagement strategies. Furthermore, the prevalence of civil servants among respondents suggests a potential for enhanced access to digital services, consistent with Balta et al. (2015), who argue that public sector employees can play a pivotal role in utilizing digital platforms.

In terms of the effectiveness of digital tools in enhancing citizen engagement, the findings show a notable increase in engagement levels post-implementation. This corroborates the findings of the UNDP (2016), which assert that digital tools can significantly enhance citizen involvement and promote two-way communication with government entities. The observed improvements in service quality after implementing digital tools further reflect the arguments made by OECD (2016) regarding the positive impacts of digital governance on service delivery standards.

Regarding the impact of digital government on service delivery, the research indicates that services were perceived as poor before digitalization, which resonates with Nchuchuwe & Ojo (2016), who highlight common dissatisfaction with traditional service delivery methods. The favourable reception of digital initiatives, such as online payment systems, aligns with the observations from Dahiru et al. (2022), who noted that digitalization can enhance service efficiency and citizen satisfaction. This suggests that the implementation of digital tools is essential for improving public service delivery.

However, the study also identifies challenges encountered during implementation, such as technical issues and resistance to change among government employees. These challenges are consistent with findings from Laksilu & Blandine (2022), which underscore the complexities of

digital transformation and the need for comprehensive strategies to address them. The scepticism expressed by some respondents regarding the effectiveness of digital initiatives mirrors the concerns raised by Aucoin and others about the variability of New Public Management (NPM) principles across different contexts (Aucoin, Peters, Pierre, & Mathiasen).

In conclusion, the findings of this study reinforce the literature's assertions about the transformative potential of digital tools in enhancing citizen engagement and improving service delivery. However, addressing implementation challenges and ensuring effective utilization of digital technologies are critical for maximizing the benefits of digital governance, as emphasized in various studies reviewed. This integration of findings with existing literature underscores the importance of a strategic approach to digital transformation in the public sector.

8. Conclusion

This study highlights the transformative potential of digital tools in enhancing citizen engagement and improving government service delivery. While significant improvements have been observed, addressing implementation challenges is crucial for maximizing benefits. It is also important to consider the socio-economic and demographic characteristics of the target population in developing digital initiatives.

9. Recommendations

To build on these findings, several key recommendations are proposed: First, invest in digital literacy programs to equip citizens and government employees with essential skills. Second, prioritize digital infrastructure development to enhance connectivity in underserved areas. Third, promote collaboration among government agencies, civil society, and the private sector to create effective digital initiatives. Fourth, establish regular evaluations to monitor the effectiveness of digital services and incorporate citizen feedback. Finally, enact supportive policies that foster innovation, ensure data privacy, and promote equitable access to digital services. Implementing these strategies can help maximize the benefits of digital tools for citizen engagement and service delivery.

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