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**Public Service Delivery in Nigeria: A Quantitative Analysis of the Effect of E-Governance Dimensions**

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**Abstract**

A proper understanding of issues affecting public service delivery is critical to maintaining an effective public service system in Nigeria. This study examined the predictive association between e-governance and public service delivery in South-South Nigeria. The study adopted a cross-sectional survey design targeting civil servants across Federal, State, and Local Government institutions. A convenience sampling technique was used due to accessibility constraints. A total of 340 questionnaires were distributed across multiple ministries and agencies, out of which 230 valid responses were retrieved and used for analysis, representing a response rate of 67.6%. Data were collected using a self-structured instrument titled *E-Governance and Public Service Delivery Questionnaire* (EGPSDQ). The instrument was subjected to face and content validation by experts, and reliability was confirmed using Cronbach's alpha. Descriptive statistics (frequency counts, percentages with bar chart displays) were used to assess the extent of e-governance implementation and public service delivery, while multiple linear regression analysis was employed to examine the relationship between e-governance dimensions and service delivery outcomes. The result revealed that the extent of public service delivery is low, while e-governance is implemented to a moderate extent in the South-South Region of Nigeria. The regression results indicated that e-governance dimensions are significantly associated with public service delivery. The study concludes that strengthening digital governance practices may improve service delivery efficiency in the public sector. It is recommended that government agencies enhance digital infrastructure, staff capacity, and inter-agency integration to improve service outcomes.

**Keywords:** *public service, public service delivery, e-governance, e-governance initiatives, public service dimensions*

## **Introduction**

World over, the effective delivery of public services is not only essential but also serves as the cornerstone of a vibrant and successful society. Numerous studies have underscored that societal success is unattainable when public institutions fail to fulfil their statutory responsibilities to citizens (Anshari et al., 2025; Mugabe, Adyanga & Ocan, 2025; Shibambu & Ngoepe, 2025). Research has consistently shown that the provision of effective public services play a pivotal role in enhancing societal well-being by ensuring that citizens have access to fundamental needs such as quality healthcare, education, and clean drinkable water. These elements are critical, as they not only improve the overall quality of life, but also contribute to the stability and cohesiveness of society (Abdi & Ali, 2024; Dimian & Barbu, 2012; Enaifoghe, Tafadzwa & Sandiso, 2024; Nwekeaku & Obiorah, 2019; Rose & Newton, 2010).

Moreover, it is posited that the effective delivery of public services significantly boosts economic development. By creating a skilled and productive workforce, public services enable individuals to gain essential skills and training, which in turn fosters an environment conducive to business growth and innovation (Johnston & Fenwick, 2025; Ncanywa, 2025; Nor, 2025; Thirawan, 2025). In addition to economic benefits, scholars have highlighted that efficient public services are instrumental in driving societal transformation and promoting equity among diverse community groups (Lindgren & van Veenstra, 2018; Zulmasyhur, 2024). They play a crucial role in safeguarding communities from unforeseen disasters through effective emergency response systems and disaster management strategies (Latupeirissa et al., 2024). Thus, the interplay of various public services not only fortifies the fabric of society but also strengthens the overall economy through the establishment of robust infrastructure and the promotion of effective governance structures (Das, 2024; Ghahari, 2025).

The quality and efficiency of public service delivery are crucial determinants of societal progress and resilience, influencing various aspects of daily lives and the overall well-being of citizens. In Nigeria, the public sector is designed to function as both a provider and a catalyst for delivering affordable and quality services to its citizens, ensuring that fundamental needs are met

and fostering socio-economic development (Akuche & Akindoyin, 2024; Nwekeaku & Obiorah, 2019; Oladele & Olaitan, 2025). However, the country continues to face significant challenges that undermine the effectiveness of public service delivery. The pervasive insecurity, marked by rising crime rates and communal violence, hampers safe access to essential services (Akindoyin & Obafemi, 2025; Babalola, 2025; Berebon, 2025; Samuel, 2024). Corruption within the various levels of government in Nigeria further exacerbates the problem, diverting resources meant for public welfare and eroding trust in institutions (Ladi et al., 2025; Okolie & Egbon, 2025). The lack of affordable housing and clean water remains a pressing concern; many citizens are deprived of these basic necessities, contributing to poor living conditions and health risks (Hameed et al., 2025; Irene et al., 2025; Kasim et al., 2025; Makinde & Makinde, 2025; Somorija, 2025).

It is obvious that the escalating cost of living, driven by skyrocketing food prices and inadequate healthcare delivery, leaves many families struggling to meet their basic needs (Akoji & Abaji, 2025; Ajisebiyawo et al., 2025; Njoku & Mmuogbuo, 2025). The quality of education and healthcare services has deteriorated, with insufficient funding, poor infrastructure, and insufficiently trained personnel resulting in substandard outcomes for Nigerians (Funmilola & Kelly, 2024; Josiah et al., 2025; Odinenu & Anago, 2025). Again, the incremental trends of unemployment and poverty paint a grim picture: millions of individuals are either underemployed or without jobs, hindering economic mobility and overall quality of life. It is argued that these interconnected issues highlight the critical gaps in public service delivery across Nigeria, indicating a pressing need for comprehensive reforms and efficient governance to promote a more equitable and just society (Akinsanmi et al., 2022; Ihionkhan & Jesuorobo, 2017; Okafor, 2023; Oikhala, 2021). This situation is also applicable in States within the South-South Region.

Scholars have always measured public service delivery from the traditional approach, which heavily emphasize supply-side metrics like resource allocation and bureaucratic processes (Ferlie & Ongaro, 2022; Yeung, 2023; Kinder & Stenvall, 2023). This is in line with the argument that the traditional role of the public service is the maintenance of law and order, and the provision of basic rudimentary social goods and services such as roads, water and education (Bello &

Mackson, 2022; Hanson, 2022; Igwebueze, 2024). However, modern approaches are increasingly shifting to a citizen-centric, demand-side focus on service value and user experience (Balatsas-Lekkas & Grenman, 2021; Ferdous, 2025). It is argued that the global focus on the public service in the 21st century has expanded this traditional role to a broader term of service delivery to cover effective and efficient service delivery from the perspectives of quality, accessibility, affordability and even safety (Ahmed, 2024; Al-Assaf et al., 2024; Barbier & Tengeh, 2022; Zerihun & Mashigo, 2022; Momen & Ferdous, 2023).

Research indicates that the modern measurement of public service is based on the principles of the Service Quality (SERVQUAL) model, which includes reliability, assurance, tangibility, empathy, and responsiveness (Dzakwan & Ubit, 2025; Katelo et al., 2021; Pataraiia et al., 2025; Piyasunthornsakul et al., 2022). Adequate measurement of modern public delivery should take a multidimensional approach, involving latent variables such as quality, accessibility, affordability, safety, reliability, assurance, tangibility, empathy, and responsiveness (Hoxha, 2023; Sann et al., 2023; Singh & Singh, 2018).

Scholars have also argued that public services are effectively delivered when the populace can access the services, be able to pay for them, and when the services meet their expectations (Latupeirissa et al., 2024; Osborne et al., 2022). Public services must be delivered as promised (reliability), in a manner that promotes the safety of the people (safety), with the services physically present at their locations (tangibility), and responsive to the needs of the citizens (responsiveness) (Kurniasi et al., 2024; Mahachi, 2022; Makmur, 2022; Velasco, 2024). Public services must gain the trust of the users (assurance), and take into consideration the personal characteristics of the users (empathy) (Malik et al., 2024; Mao et al., 2023; Zhou et al., 2025).

The present study adopted this multidimensional approach to public service delivery, examining not just the supply of the services by the government, but also from the demand side, focusing on the perspectives of the users. However, research indicates that delivering effective public service in the modern era requires a comprehensive and strategic application of e-governance principles (Atiq et al., 2023; Grigalashvili, 2022; Inakefe et al., 2024). This approach

not only streamlines administrative processes but also enhances transparency, accessibility, and citizen engagement (Abdulnabi, 2024; Balaji, 2025). It is argued that by leveraging advanced technologies and data analytics, governments can improve service delivery, foster meaningful interactions with the public, and ensure that services are tailored to meet the evolving needs of society (Hartanto et al., 2021; Nnamani et al., 2023). Embracing e-governance is essential for creating responsive and accountable governance that reflects the dynamic landscape of contemporary public administration (Abbas et al., 2024; Neupane, 2024). E-governance is the use of information and communication technologies (ICTs) to improve the delivery of government services, enhance transparency, and increase citizen participation in the political process (Chuangkrai, 2025; Efthymiou, 2025; Olabimitan et al., 2025; Taiwo, 2025). Six dimensions of e-governance, such as Government-to-Government (G2G), Government-to-Citizen (G2C), Government-to-Business (G2B), Government-to-Civil Society Organizations (G2SC), Citizen-to-Citizen (C2C), and Government-to-Employees (G2E) have been identified as critical to measuring e-governance in modern society (Grigalashvili, 2022; Thakur et al., 2020). While G2G explains e-administration aimed at establishing and using a common data warehouse for intergovernmental communication and collaboration, G2C addresses e-government aimed at communication between citizens and government officials (Reji, 2021). Similarly, G2B is concerned with e-government, e-commerce, e-collaboration, such as posting government bids on the Web, e-procurement, and e-partnerships, while G2SC centres on e-government, such as electronic communications and coordination efforts after a disaster (Grigalashvili, 2023). Also, the C2C dimension of e-governance is concerned with e-government, which involves electronic discussion groups on civic issues (Malik et al., 2014; Zhou et al., 2025). Saputra et al. (2023) described G2E as an e-commerce framework that leverages technology in operational processes to improve internal efficiency, reduce errors by employees, and increase access to information. Research indicates that there are limited studies examining all the multidimensional interactions between e-governance and public service delivery (Umbach & Tkalec, 2022; Zhang & Bhattacharjee, 2024). Therefore,

the present research was designed to fill this gap by assessing the association between the six dimensions of e-governance and nine dimensions of public service delivery.

Various studies have established a significant relationship between e-governance and public administration, underscoring the transformative potential of digital technologies in government operations (Balaji, 2025; Berch et al., 2024; Şahin, 2024; Sharmin & Chowdhury, 2025). Research highlights that the incorporation of digital collaborative governance mechanisms can markedly enhance citizen involvement in government decision-making processes, facilitating more inclusive and participatory governance structures (Kassen, 2025; Pandey & Suri, 2020). Scholars have argued that collaborative governance is a vital component of e-governance practices aimed at generating public service values, including several critical elements, such as transparency, increased citizen engagement, improved service delivery, and streamlined administrative procedures, which collectively contribute to more effective and efficient public administration (Deng et al., 2018; Pandey & Suri, 2020).

Moreover, researchers have specifically associated public service delivery with the Government-to-Government (G2G) dimension of e-governance, emphasizing intergovernmental cooperation and coordination, which are essential for optimizing service delivery across various public sectors (Afanasyeva & Korostyshevskaya, 2024; Chidiebere, 2025; Enaifoghe, 2025; Tomić et al., 2024). However, several studies have identified critical issues related to the effectiveness of Government-to-Citizen (G2C) e-governance initiatives, linking these problems to challenges in public administration and service delivery (Huque & Ferdous, 2024; Kamale & Asaju, 2025; Lazizovna, 2024; Kędziński & Horák, 2024). Ahmed (2025) revealed an inverse association between Government-to-Employees (G2E) dimension and organizational readiness for citizen-centric governance, while a direct relationship was identified between G2G and G2C interactions and the organizational readiness to embrace citizen-centric strategies. Evidence drawn from a comprehensive cross-country study indicates that a robust government commitment towards e-governance, particularly in G2C, Government-to-Business (G2B), G2E, and G2G initiatives, is a prerequisite for ensuring sustainable public service delivery (Hayat et al., 2025).

E-government efforts were reported to have significantly enhanced efficiency through G2C, G2B, and G2G initiatives, while e-governance initiatives tended to focus on broader objectives such as fostering participatory decision-making, optimizing resource allocation, and improving overall governance outcomes (Efthymiou, 2025). Additionally, another study uncovered that certain e-governance initiatives, like Government-to-Civil Society Organizations (G2SC), have improved access to essential government information services (Grigalashvili, 2023; Lee, 2019; Nanos et al., 2018).

However, the overall adoption of these e-government initiatives has been relatively weak, primarily due to inadequate infrastructure and technological support within the observed government agencies (Nahal Mahmood et al., 2025). This indicates a pressing need for strategic investments in infrastructure and capacity building to enhance the efficacy of e-governance initiatives and ensure equitable access for all citizens. Though different studies have established that e-governance has implications for different dimensions of public service delivery, none of the studies approach the problem using a multidimensional approach to measure the predictive effect of six e-governance dimensions on nine dimensions of public service delivery. Therefore, this study was designed to analyze the association between the dimensions of e-governance and the dimensions of public service delivery, as shown in the conceptual model in Figure 1.

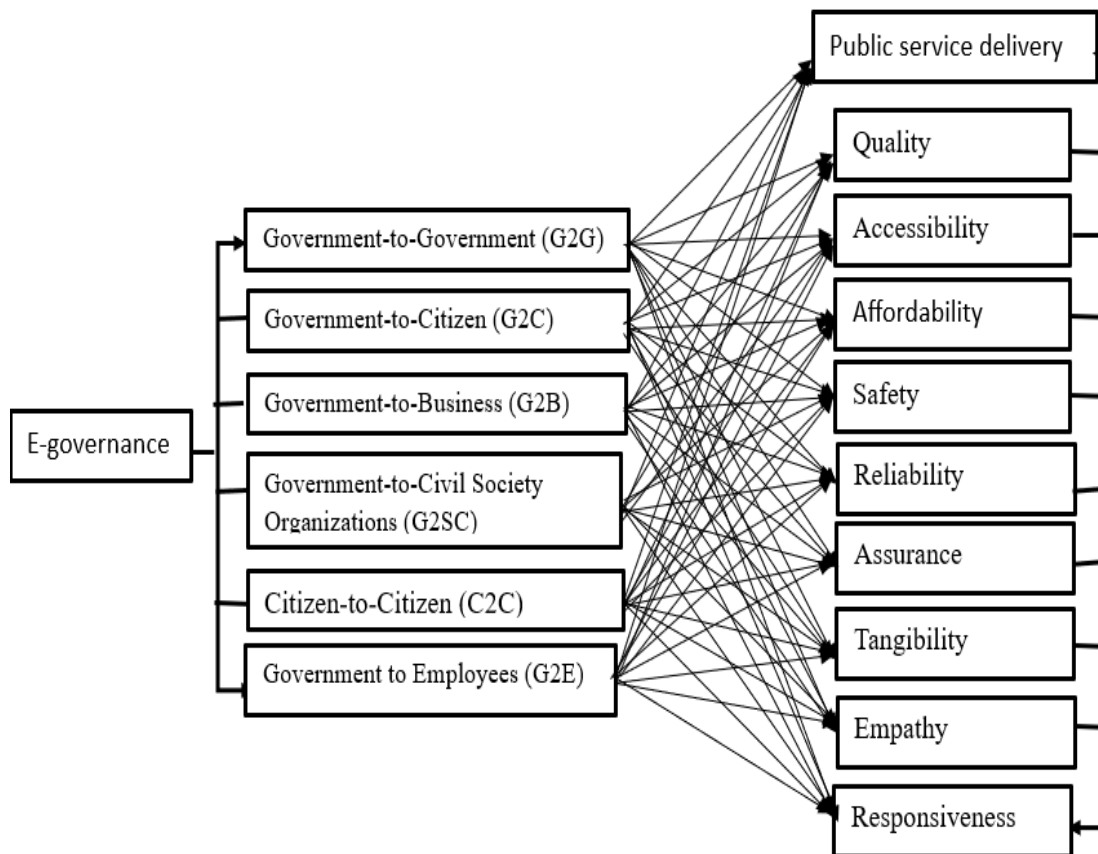


Figure 1: Conceptual model showing the dimensions of independent and dependent variables

Source: The Authors (2025)

### Statement of the problem

The effective delivery of public services is critical to the success of every country, as it directly impacts citizens' quality of life and overall well-being. Public services encompass a wide range of essential functions, including healthcare, education, transportation, and public safety. These services are effectively delivered when they can be accessed by citizens, meet the expectations of the populace, the services are affordable, responsive to the needs of the people, are physically or digitally available, and are delivered in a way that ensures the safety and trust of the masses. Unfortunately, the poor healthcare delivery in Nigeria, the poor quality of education in the country, the dilapidated conditions of public infrastructure and social amenities in Nigeria, have raised concern about public service delivery in the country.

Giving the fact that e-governance is critical to public service delivery around the globe, the researchers wonder whether the observed poor public service delivery in Nigeria specifically in the South-South Region, is associated with the extent to which e-governance principles are integrated

into the administrative mainstream of the country. It is based on this premise that the researchers raised the question: What is the relationship between e-governance and public service delivery in South-South Nigeria?

### **Research Objectives**

The main objective of this study is to examine the relationship between e-governance dimensions and public service delivery in South-South Nigeria.

Specifically, the study seeks to:

- Assess the extent of public service delivery in South-South Nigeria.
- Examine the extent of implementation of e-governance in South-South Nigeria.
- Determine the composite effect of e-governance dimensions: Government-to-Government (G2G), Government-to-Citizen (G2C), Government-to-Business (G2B), Government-to-Civil Society Organizations (G2SC), Citizen-to-Citizen (C2C), and Government-to-Employees (G2E) on public service delivery, including quality, accessibility, affordability, safety, reliability, assurance, tangibility, empathy, and responsiveness.

### **Research questions**

This study aimed to seek responses for the following research questions:

1. What are the extent of public service delivery in South-South Nigeria?
2. What is the extent of the implementation of e-governance in South-South Nigeria
3. What are the composite effects of e-governance dimensions: Government-to-Government (G2G), Government-to-Citizen (G2C), Government-to-Business (G2B), Government-to-Civil Society Organizations (G2SC), Citizen-to-Citizen (C2C), and Government-to-Employees (G2E) on public service delivery, including quality, accessibility, affordability, safety, reliability, assurance, tangibility, empathy, and responsiveness.

### **Research hypothesis**

This study aimed to test one research hypothesis:

- E-governance dimensions do not have a significant composite effect on public service delivery in South-South Nigeria generally, and in terms of quality, accessibility, affordability, safety, reliability, assurance, tangibility, empathy, and responsiveness.

## **Methodology**

The study was carried out in South-South Nigeria. This study used the quantitative research approach following the positivist research paradigm. The research design adopted for this study is the descriptive survey research design. The population of this study comprised civil servants across Federal, State, and Local Government institutions in the six states of South-South Nigeria. Due to the absence of a comprehensive sampling frame and constraints in accessing respondents across multiple institutions, the study relied on an accessible population drawn from selected ministries and agencies. A convenience sampling technique was adopted due to accessibility constraints and the absence of a comprehensive sampling frame of civil servants across the different levels of government. This approach is consistent with similar empirical studies where access to respondents is limited, and it allows for the collection of relevant data for analysing relationships among study variables.

An instrument, tagged “E-Governance and Public Service Delivery Questionnaire (EGPSDQ) was used for data collection. The instrument was designed using a modified four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (DA), and Strongly Disagree (SD). The instrument was subjected to face and content validity by three experts in Public Administration and Measurement and Evaluation to ensure clarity, relevance, and coverage of the study variables. The instrument was subjected to a reliability test using the Cronbach alpha reliability scale, and the reliability coefficient estimates realized ranged from 0.83 to 0.91. The respondents in this study were civil servants working at the Federal, State, and Local Government levels in the six South-South States. An online questionnaire was designed and distributed to the participants through their e-mails. The process was assisted by a civil servant in each of the agencies used for the study.

Responses were coded and organised according to the level of government (Federal, State, and Local) represented by each participant. Ethical considerations were strictly observed.

Participation was voluntary, informed consent was obtained from respondents, and anonymity and confidentiality of responses were ensured. A total of 340 questionnaires were distributed across selected ministries and agencies, out of which 230 valid responses were retrieved and used for analysis, representing a response rate of 67.6%. Although the sample size may be relatively small compared to the overall population of civil servants in the region, it is considered adequate for examining relationships among variables using regression analysis, particularly within non-probability sampling contexts. The focus of the study is on analysing the association between e-governance dimensions and public service delivery rather than making statistical generalisations to the entire population. The sample size was considered adequate for regression analysis based on minimum sample size requirements for multivariate analysis, which recommend at least 10–15 observations per predictor variable. Descriptive statistics (frequency counts, percentages, and bar charts) were used to assess the extent of e-governance implementation and public service delivery.

Multiple linear regression analysis was used to examine the relationship between e-governance dimensions and public service delivery outcomes. The results of the analyses are reported in the following section. However, the use of a convenience sampling technique limits the generalisability of the findings beyond the sampled respondents. As such, the results should be interpreted with caution when extending conclusions to the broader population of civil servants in South-South Nigeria.

## **Results and discussions**

**Research question one:** What is the extent of public service delivery in South-South Nigeria? The responses to this research question are presented in Figure 2.

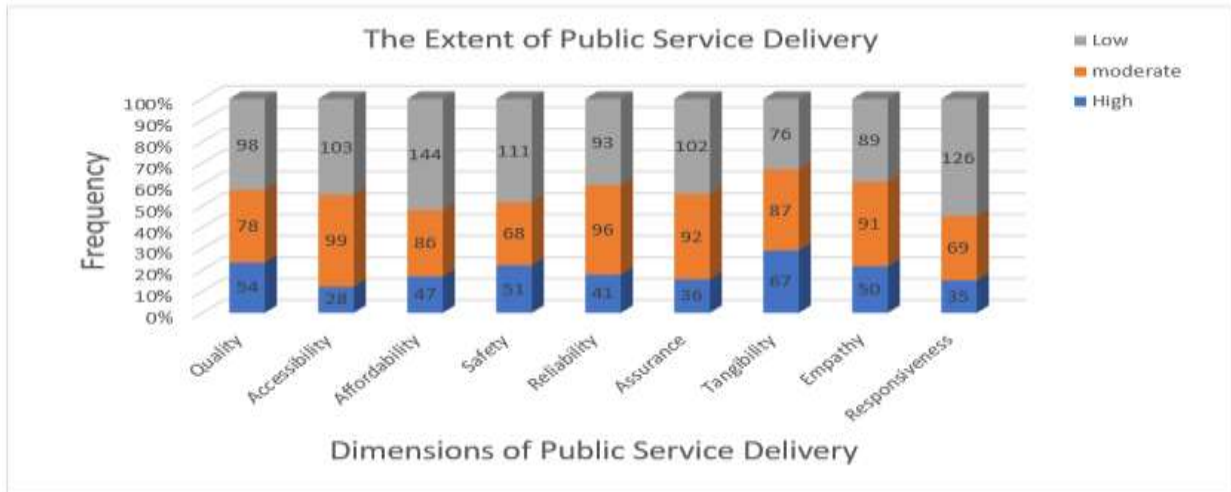
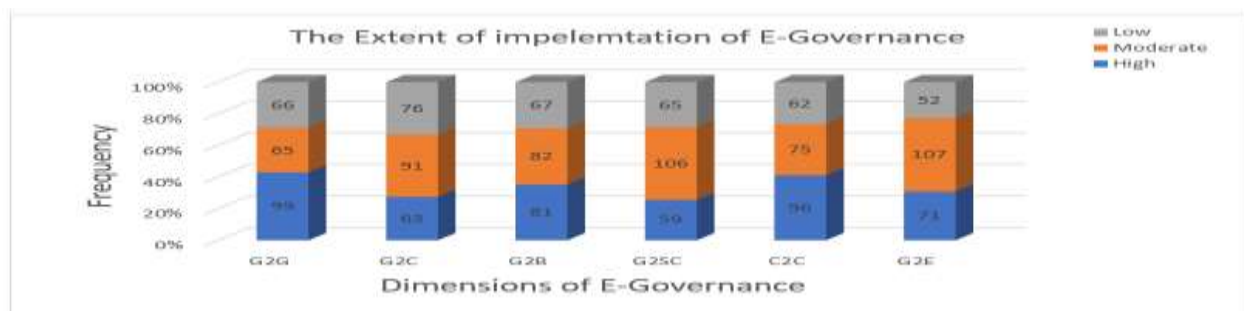


FIG.2: A Clustered Bar-Chart showing the extent of public service delivery in South-South Nigeria  
Source: The Authors (2025)

The analysis presented in Figure 2 reveals that the overall quality and extent of public service delivery in South-South Nigeria are notably deficient. A significant majority of the respondents expressed the belief that the region is underperforming in all the key metrics of public service delivery that were evaluated. The majority of the participants think that the quality of public services in the region is below standard, and citizens cannot access public services like healthcare and quality education because they are not affordable. It is apparent from the result that most of the services do not stand the test of time and are not safe for vulnerable citizens. Citizens lack trust in public services as they are delivered in a way that tackles their direct needs. This perception of inadequacy in public services underscores a pressing need for systemic improvements and targeted interventions to enhance the effectiveness and reach of public services in the region.

**Research question two:** What is the extent of implementation of e-governance in South-South Nigeria? The responses to this research question are presented in Figure 3.



**FIG.3: A Clustered Bar-Chart showing the extent of implementation of E-governance in South-South Nigeria**  
 Source: The Authors (2025)

The analysis presented in Figure 3 reveals that the majority of the participants think that e-governance principles and initiatives have been moderately implemented within the South-South states. For instance, the analysis indicates that there is full implementation of the Government-to-Government and Citizen-to-Citizen e-governance initiatives, while Government-to-Citizen, Government-to-Business, Government-to-Civil Society Organizations, and Government-to-Employees initiatives were moderately implemented. It is also indicated in the analysis that the Citizen-to-Citizen model was implemented to a high extent in the Region. This means that e-governance has been implemented in South-South at varying degrees.

**Hypothesis one**

E-governance dimensions do not have a significant composite effect on public service delivery in South-South Nigeria generally, and in terms of quality, accessibility, affordability, safety, reliability, assurance, tangibility, empathy, and responsiveness. The results of the analysis are presented in Table 1.

**Table 1: Summary of Multiple Regression Results for the Effect of E-Governance on public service delivery**

Dependent Variable	F (df = 6, 223)	R	R <sup>2</sup>	Adj. R <sup>2</sup>	SE	p-value
Overall	501.166	0.834	0.812	0.809	5.703	.000
Quality	706.023	0.790	0.771	0.769	1.901	.000
Accessibility	93.337	0.846	0.715	0.708	1.365	.000
Affordability	72.161	0.812	0.660	0.651	1.365	.000
Safety	76.207	0.820	0.672	0.663	1.371	.000
Reliability	706.023	0.723	0.710	0.709	1.812	.000
Assurance	93.337	0.846	0.715	0.708	1.365	.000

Tangibility	72.161	0.812	0.660	0.651	1.365	.000
Empathy	76.207	0.820	0.672	0.663	1.371	.000
Responsiveness	76.207	0.820	0.672	0.663	1.371	.000

**Predictors:** Government-to-Government (G2G), Government-to-Citizen (G2C), Government-to-Business (G2B), Government-to-Civil Society Organizations (G2SC), Citizen-to-Citizen (C2C), Government-to-Employees (G2E)

**Source:** The Authors (2025)

Prior to regression analysis, diagnostic tests were conducted to ensure that the assumptions of multiple linear regression were not violated. Multicollinearity was assessed using Variance Inflation Factor (VIF) and tolerance values, and the results indicated that multicollinearity was not a concern (VIF values were below the acceptable threshold of 5). Additionally, tests for normality, linearity, and homoscedasticity confirmed that the data were suitable for regression analysis.

The results presented in Table 1 indicate that the composite effect of e-governance dimensions on public service delivery is statistically significant across all models examined. For overall public service delivery, the regression model is significant ( $F = 501.166$ ,  $p < .001$ ), with a strong multiple correlation coefficient ( $R = .834$ ) and a high coefficient of determination ( $R^2 = .812$ ). This implies that approximately 81.2% of the variation in overall public service delivery is explained by the combined effect of the six e-governance dimensions included in the model.

Across the specific dimensions of public service delivery, the regression results also show statistically significant models ( $p < .001$  in all cases). The explanatory power of the models varies by dimension. For instance, e-governance dimensions explain 77.1% of the variation in service quality ( $R^2 = .771$ ), 71.5% in accessibility ( $R^2 = .715$ ), 66.0% in affordability ( $R^2 = .660$ ), and 67.2% in safety ( $R^2 = .672$ ). Similarly, substantial proportions of variation are explained in reliability ( $R^2 = .710$ ), assurance ( $R^2 = .715$ ), tangibility ( $R^2 = .660$ ), empathy ( $R^2 = .672$ ), and responsiveness ( $R^2 = .672$ ). The relatively high  $R^2$  values observed may be influenced by the use of self-reported data and potential common method variance. Although diagnostic tests indicated acceptable multicollinearity levels, future studies may apply more rigorous techniques such as Harman’s single-factor test or longitudinal designs.

The consistently significant F-ratios across all models indicate that the set of e-governance dimensions jointly predicts public service delivery outcomes beyond what would be expected by chance. The relatively high R<sup>2</sup> values observed across models suggest that e-governance practices are strongly associated with variations in public service delivery within the study area. However, these findings should be interpreted as evidence of statistical association rather than causation, given the cross-sectional nature of the study. Based on these results, the null hypothesis which states that e-governance dimensions do not have a significant composite effect on public service delivery in South-South Nigeria is rejected. This rejection applies both to overall public service delivery and to each of its specific dimensions examined in the study.

The findings suggest that variations in the implementation of e-governance dimensions are closely linked with differences in service delivery outcomes. This indicates that improvements in digital governance practices may be associated with better performance across multiple aspects of public service delivery, although the strength of this association varies across dimensions. Notably, the variation in explanatory power across service delivery dimensions suggests that e-governance may be more strongly associated with some aspects of service delivery than others. For example, the relatively higher explanatory power observed for quality and reliability may reflect the role of digital systems in improving standardisation and process consistency, whereas slightly lower values for affordability and tangibility may indicate the influence of external structural and resource-related factors beyond digital governance mechanisms.

## **Discussion**

The findings of this study indicate that public service delivery in South-South Nigeria is delivered to a relatively low extent. This outcome is consistent with prevailing conditions in the region, where structural and institutional challenges continue to constrain effective service provision. For instance, persistent insecurity, including rising crime rates and communal conflicts, limits safe and equitable access to essential public services (Akindoyin & Obafemi, 2025; Babalola, 2025; Berebon, 2025; Samuel, 2024). In addition, corruption across different levels of government has been widely documented as a major constraint, as it diverts resources intended for

public welfare and weakens institutional trust (Ladi et al., 2025; Okolie & Egbon, 2025). These conditions help to explain the generally low level of service delivery observed in the study.

The results further indicate that the implementation of e-governance in the region is moderate. This suggests that while digital governance practices have been introduced across Federal, State, and Local Government institutions, their adoption is not yet sufficiently widespread or fully integrated to produce optimal outcomes. The moderate level of implementation, when considered alongside the strong statistical association observed in the regression results, suggests that variations in e-governance practices are closely linked with differences in service delivery performance. In practical terms, this implies that even partial adoption of e-governance may contribute to improvements in administrative efficiency, coordination, and access to services, although such improvements may not yet be uniform across all institutions. This finding aligns with the research of Balaji (2025), Berch et al. (2024), Şahin (2024), and Sharmin and Chowdhury (2025), who also linked the challenges of public service delivery to the level of e-governance adoption. However, the present study extends this understanding by showing that the strength of this relationship varies across specific dimensions of service delivery, indicating that digital governance may influence some aspects of service provision more strongly than others. The strong association observed between e-governance and service delivery may be explained by the role of digital systems in reducing bureaucratic delays, improving information flow, and enhancing accountability mechanisms within public institutions. In the South-South Nigerian context, where administrative inefficiencies and coordination challenges are prevalent, even moderate levels of digital integration may produce noticeable improvements in service delivery outcomes.

In general, the findings of the present study suggest that improving public service delivery in South-South Nigeria may require sustained efforts to deepen the implementation of e-governance across all levels of government. Such efforts should go beyond basic adoption to include system integration, capacity building, and consistent application of digital processes across agencies. While e-governance alone may not address all structural challenges affecting service delivery, its effective implementation appears to be closely associated with better service outcomes

in the region. Furthermore, the findings suggest that structural factors such as governance quality, institutional capacity, and resource availability may interact with e-governance to influence service delivery outcomes. This indicates that digital transformation efforts should be complemented by broader institutional reforms to achieve more consistent improvements in public service delivery.

Notwithstanding these findings, it is important to interpret the results within the methodological scope of the study. Given the use of a convenience sampling technique and the relatively limited sample size, the findings may not be fully generalisable to all civil servants in South-South Nigeria. Rather, the results provide empirical evidence of patterns and associations among the sampled respondents. Despite this limitation, the consistency of the statistical relationships observed suggests that the findings offer useful insights into the role of e-governance in shaping public service delivery outcomes within similar institutional contexts.

## **Conclusion**

This study examined the relationship between e-governance dimensions and public service delivery in South-South Nigeria. The findings indicate that public service delivery in the region is relatively low, while the level of e-governance implementation is moderate across Federal, State, and Local Government institutions. The results further show that e-governance dimensions are significantly associated with public service delivery, both at the overall level and across specific dimensions, including quality, accessibility, affordability, safety, reliability, assurance, tangibility, empathy, and responsiveness. This suggests that variations in the extent of e-governance implementation are closely linked with differences in service delivery outcomes within the region. Based on these findings, it is concluded that strengthening e-governance practices across the different levels of government may be associated with improvements in public service delivery. However, given the cross-sectional nature of the study, these findings should be interpreted as evidence of statistical association rather than causation. Generally, the study points to the importance of sustained and coordinated efforts to deepen digital governance practices as part of broader strategies aimed at improving public service delivery in South-South Nigeria.

## **Recommendation for policy directions**

Based on the findings of this study, the following policy directions are proposed to improve public service delivery in South-South Nigeria:

1. Government agencies at Federal, State, and Local levels should enhance coordination through integrated digital platforms that enable data sharing, communication, and joint service delivery processes. This can reduce administrative fragmentation and improve efficiency.
2. Public institutions should develop and maintain user-friendly digital platforms that facilitate access to services, feedback mechanisms, and real-time information. This can enhance accessibility, responsiveness, and citizen trust.
3. Regular training programmes should be implemented to improve the digital competencies of public servants. This will support the effective use of e-governance tools and reduce operational inefficiencies.
4. Government should establish structured digital channels that promote interaction with businesses, civil society organizations, and citizens. Mechanisms such as online consultation platforms, stakeholder forums, and feedback systems can improve transparency and inclusiveness in decision-making.
5. Adequate investment in ICT infrastructure, including reliable internet connectivity and secure data systems, should be prioritised to support consistent implementation of e-governance across agencies.
6. Clear policy frameworks should be developed to guide the uniform adoption and implementation of e-governance practices across ministries and agencies, reducing disparities in service delivery outcomes.

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