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THE ROLE OF DIGITALISATION IN BRIDGING INTEGRITY AND COMPLIANCE-BASED APPROACHES TO ANTI-CORRUPTION IN NIGERIAN PUBLIC SECTOR ORGANISATIONS

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ABSTRACT

Digitalisation has emerged as a critical tool in the fight against corruption, offering new avenues for enhancing transparency, strengthening compliance, and fostering integrity within public sector organisations. In the Nigerian public sector, where corruption remains pervasive, the integration of digital systems provides an opportunity to bridge integrity-based and compliance-based anti-corruption approaches. This study examines how digitalisation facilitates this integration by drawing on a mixed-methods research design comprising semi-structured interviews, focus group discussions, and a survey of 300 public sector employees. A total of 32–36 qualitative participants contributed insights into the opportunities and challenges associated with digital anti-corruption tools. The findings reveal that digitalisation significantly improves transparency and reduces corruption, with 73.3% of respondents affirming positive impacts on transparency and 65% reporting reduced corruption levels within their departments. Inferential analyses further demonstrate statistically significant relationships between digital tool usage and governance outcomes, including strong associations and predictive effects ($p < 0.05$) on transparency and corruption reduction. These results align with and extend theoretical perspectives from Principal–Agent Theory, Institutional Theory, Transparency and Accountability Theory, the Technology Acceptance Model, and the Diffusion of Innovations Theory by showing how digital tools simultaneously enhance ethical behaviour, strengthen monitoring capabilities, and reshape institutional norms. Despite these positive outcomes, key challenges, including weak digital infrastructure, resistance to organisational change, and low digital literacy, continue to hinder effective implementation. The study concludes that addressing these barriers through targeted investments, capacity-building programs, and strategic change management is essential for maximising the impact of digitalisation in anti-corruption initiatives. The research

underscores digitalisation as a transformative mechanism capable of unifying integrity and compliance-based approaches in Nigeria's public sector governance.
Keywords: *Digitalisation, Anti-Corruption, Compliance, Integrity, and Transparency.*

1. Introduction

In recent years, the Nigerian public sector has been grappling with the pervasive challenge of corruption, a systemic issue that undermines governance, erodes public trust, and hampers socio-economic development. Efforts to combat corruption have traditionally focused on integrity-based and compliance-based approaches (Azinge-Egbiri, 2021). Corruption in the public sector remains a significant impediment to Nigeria's development, affecting not only the efficient delivery of services but also undermining public confidence in governance (Claude, 2024). The complexity of this challenge has led to the adoption of various anti-corruption strategies, primarily categorised into integrity-based and compliance-based approaches. Integrity-based approaches focus on instilling ethical values and fostering a culture of integrity within organisations, encouraging individuals to act in the public interest beyond mere adherence to rules. On the other hand, compliance-based approaches emphasise the enforcement of laws, regulations, and policies designed to deter corrupt practices through stringent oversight and penalties. While both approaches are crucial, their isolated application often leads to gaps in implementation, limiting their effectiveness in addressing the multifaceted nature of corruption (Backer, 2021). Integrity-based approaches emphasise fostering ethical behaviour and cultivating a culture of honesty within organisations, while compliance-based approaches rely on strict adherence to laws, regulations, and procedural guidelines. However, the dichotomy between these approaches often leads to fragmented strategies that fail to address the root causes of corruption effectively (Mamokhere, & Meyer, 2023).

Digitalization has emerged as a powerful tool capable of bridging the gap between integrity and compliance-based approaches, offering innovative solutions to enhance transparency, accountability, and efficiency in the public sector (Backer, 2021). By integrating digital technologies into anti-corruption strategies, public sector organizations in Nigeria can create more cohesive and effective frameworks that align ethical principles with regulatory requirements. The deployment of digital tools such as e-governance platforms, automated auditing systems, and data analytics not only streamlines compliance processes but also reinforces a culture of integrity by making corruption more detectable and less feasible (Mamokhere, & Meyer, 2023).

The role of digitalization in anti-corruption efforts goes beyond mere automation of existing processes; it fundamentally transforms the way public sector organizations operate, enabling real-time monitoring, data-driven decision-making, and increased citizen engagement. As the Nigerian government continues to embrace digital transformation, understanding how these technologies can be leveraged to strengthen both integrity and compliance-based approaches is crucial for building a more transparent and accountable public sector (Moszoro et al., 2023). This research paper explores the role of digitalization in bridging these two critical approaches, highlighting its potential to create a more integrated and sustainable framework for combating corruption in Nigeria.

In the context of Nigeria's public sector, the integration of these approaches is becoming increasingly necessary to address corruption comprehensively. Digitalization, the adoption of digital technologies to transform organizational processes, has the potential to play a pivotal role in this integration. The advent of digital technologies offers new avenues to enhance both integrity and compliance efforts, creating a synergistic effect that amplifies the impact of anti-corruption measures. For instance, digital platforms can provide greater transparency in government operations, making it easier to track transactions, monitor compliance, and detect irregularities (Rider, 2022). Simultaneously, these platforms can promote a culture of accountability by making data and information more accessible to the public, thereby reinforcing integrity.

Moreover, the role of digitalization extends beyond mere process improvement; it represents a paradigm shift in how anti-corruption initiatives are conceived and implemented. Through tools such as blockchain technology, big data analytics, and artificial intelligence, public sector organizations can predict, prevent, and respond to corruption in ways that were previously unimaginable. These technologies enable real-time monitoring and analysis of vast amounts of data, uncovering patterns and anomalies that might indicate corrupt practices. Additionally, digital platforms facilitate better inter-agency collaboration and information sharing, essential for a coordinated approach to combating corruption (Mamokhere, & Meyer, 2023).

As Nigeria continues to pursue its digital transformation agenda, understanding the interplay between digitalization and anti-corruption strategies is critical. This research paper delves into the role of digitalisation in bridging integrity and compliance-based approaches, examining its potential to not only improve the effectiveness of anti-corruption measures but also to foster a more ethical and

transparent public sector. By exploring the intersection of technology, integrity, and compliance, this paper broadly aims to provide insights into how digital tools can be leveraged to create a robust framework for combating corruption in Nigeria's public sector.

The primary objectives of this study are:

a) To explore how digitalization influences the integration of integrity and compliance-based approaches in Nigerian public sector organizations.
b) To assess the impact of digital tools on the effectiveness of anti-corruption measures.
c) To identify the challenges and barriers to implementing digitalization in the Nigerian public sector's anti-corruption efforts.
d) To provide evidence-based recommendations for enhancing the role of digitalization in anti-corruption strategies.

2. Literature Review

The fight against corruption in the Nigerian public sector has been a focal point of research for decades, with scholars and practitioners exploring various strategies to curb this pervasive issue. Integrity-based and compliance-based approaches have emerged as two dominant frameworks in this context, each offering unique advantages and limitations. However, the advent of digitalization presents a transformative opportunity to bridge these two approaches, creating a more cohesive and effective anti-corruption strategy. This literature review examines existing studies on the role of digitalization in enhancing integrity and compliance, with a focus on its application in the Nigerian public sector. It also identifies gaps in the current literature, particularly concerning the integration of digital tools to unify these approaches.

2.1 Anti-Corruption

Anti-corruption refers to efforts, policies, and actions aimed at preventing, detecting, and addressing corrupt practices, which include the abuse of power for personal gain, bribery, embezzlement, and fraud (Agu, Nkwo, & Eneiga, 2024). Corruption undermines the integrity of institutions, distorts economic development, and erodes public trust in government and organizations (Ahmed, 2023). Anti-corruption measures typically focus on enhancing transparency, accountability, and ethical behavior through legal frameworks, institutional reforms, digital tools, and public awareness campaigns (Agu, Nkwo, & Eneiga, 2024). Effective anti-corruption strategies often involve collaboration between

governments, private sectors, and civil society to foster a culture of integrity and reduce opportunities for corrupt practices (Aliyu, 2024).

2.2 Integrity-Based Approaches to Anti-Corruption

Integrity-based approaches focus on cultivating ethical behaviour and fostering a culture of transparency within organisations. This approach is grounded in the belief that promoting ethical values and moral conduct among public officials is key to reducing corruption. According to Mamokhere, & Meyer, (2023), integrity-based initiatives in the Nigerian public sector have primarily involved ethics training programs, leadership development, and the establishment of codes of conduct for public servants. These efforts aim to internalise ethical standards, encouraging individuals to act in the public interest even in the absence of strict oversight. However, while these initiatives have shown promise, they often suffer from a lack of enforcement and monitoring mechanisms. As Okoro (2019) notes, the absence of robust systems to track adherence to ethical standards limits the effectiveness of integrity-based approaches. This has led to calls for integrating integrity with compliance mechanisms to ensure that ethical standards are not only promoted but also enforced.

2.3 Compliance-Based Approaches to Anti-Corruption

Compliance-based approaches emphasise the importance of rules, regulations, and procedures in preventing corruption. These approaches are often characterised by the implementation of anti-corruption laws, the establishment of regulatory bodies, and the enforcement of sanctions against corrupt practices. In Nigeria, significant strides have been made in this area, with the establishment of agencies such as the Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices Commission (ICPC) (Olaniyi, 2019). Despite these efforts, compliance-based approaches in Nigeria have faced significant challenges, particularly regarding enforcement consistency and the susceptibility of regulatory bodies to corruption themselves (Ndukwe, et al., 2021). Furthermore, compliance mechanisms are often reactive rather than proactive, addressing corruption after it has occurred rather than preventing it. This has led to criticisms that compliance-based approaches alone are insufficient to tackle the root causes of corruption, necessitating a more integrated strategy that includes integrity-based elements (Ferry, Funnell, & Oldroyd, 2023).

2.4 Role of Digitalisation in Anti-Corruption Efforts

Digitalisation has increasingly been recognised as a critical tool in the fight against corruption, offering new ways to enhance both integrity and compliance within the public sector. The use of digital platforms for e-governance, automated auditing, and real-time data analysis can significantly reduce opportunities for corrupt practices by increasing transparency and accountability. Digital tools such as blockchain technology and Artificial Intelligence (AI) have the potential to revolutionize the monitoring and enforcement of anti-corruption measures (Olujobi, 2023). Studies have shown that digitalization can play a vital role in bridging the gap between integrity and compliance-based approaches. For example, the use of digital platforms for training and capacity building can enhance the ethical standards of public officials, aligning with integrity-based initiatives, while simultaneously providing a framework for monitoring and enforcement, which aligns with compliance-based approaches (Rajis, 2021). However, the literature also highlights several challenges, including issues related to digital infrastructure, data privacy, and the digital divide, which can hinder the effective implementation of digital tools in anti-corruption efforts (Opudu, & Ogoun, 2023).

While existing studies have explored the individual impacts of digitalization on integrity and compliance-based approaches to anti-corruption, there is a noticeable gap in research that specifically examines how digital tools can be used to integrate these approaches effectively. Most studies tend to focus on either integrity or compliance in isolation, without adequately addressing how digitalization can create a synergy between the two. For instance, the role of digital platforms in fostering a culture of integrity while simultaneously ensuring compliance through automated monitoring and enforcement remains underexplored. There is limited empirical research on the application of digitalization in the Nigerian public sector, particularly regarding its impact on bridging integrity and compliance approaches. While some studies have highlighted the potential benefits of digitalization, there is a lack of concrete evidence demonstrating its effectiveness in this context. This gap points to the need for more in-depth studies that explore the theoretical aspects of digitalization in anti-corruption efforts and provide practical insights and case studies from the Nigerian public sector.

Furthermore, the challenges associated with implementing digital tools in a developing country like Nigeria, such as infrastructure limitations, lack of digital literacy, and resistance to change, are often mentioned but not sufficiently addressed in the literature. Future research should focus on identifying strategies to overcome these barriers, ensuring that digitalisation can be effectively leveraged to integrate integrity and compliance-based approaches to anti-corruption in the Nigerian public sector.

The literature indicates a growing recognition of the role of digitalization in enhancing anti-corruption efforts, particularly through the integration of integrity and compliance-based approaches. However, significant gaps remain in understanding how these approaches can be effectively bridged through digital tools, especially in the context of the Nigerian public sector. Addressing these gaps requires a more comprehensive approach that combines theoretical exploration with empirical research, focusing on practical solutions and the unique challenges faced by developing countries like Nigeria.

3. Theoretical Framework

Understanding the role of digitalisation in bridging integrity-based and compliance-based approaches to anti-corruption requires a strong theoretical foundation. This study draws on several complementary theories that explain how individual behaviour, institutional structures, technological acceptance, and innovation diffusion influence the adoption and effectiveness of digital tools in public sector governance. The following theoretical frameworks, Principal-Agent Theory, Institutional Theory, Transparency and Accountability Theory, the Technology Acceptance Model (TAM), and the Diffusion of Innovations Theory, provide conceptual lenses through which the study examines the integration of digitalisation into anti-corruption strategies in the Nigerian public sector.

3.1 Principal–Agent Theory

Principal–Agent Theory explains the relationship between citizens (principals) and public officials (agents), highlighting how information asymmetry creates opportunities for corruption. In many public institutions, agents often have more access to information than the principals they serve, enabling discretionary behaviour that may lead to bribery, fraud, or abuse of office. Digitalisation helps mitigate this information imbalance by making processes more transparent, reducing discretion, and enabling real-time oversight. Tools such as e-procurement, automated auditing systems, and digital reporting platforms reduce the likelihood that agents can manipulate records or conceal unethical behaviour. Thus, Principal–Agent Theory underscores how digital technologies serve as monitoring instruments that strengthen compliance while reinforcing integrity-based expectations within public organisations.

3.2 Institutional Theory

Institutional Theory focuses on how organisational structures, norms, rules, and cultural expectations influence behaviour within institutions. In the Nigerian public sector, deeply rooted institutional

practices and bureaucratic culture often shape how anti-corruption policies are implemented. Digitalisation introduces new norms and processes that can disrupt existing practices and encourage more transparent and accountable behaviour. However, institutions tend to resist change, especially when new systems challenge long-standing informal practices or create uncertainty among employees. From this perspective, digitalisation is not simply a technological upgrade but an institutional change process that requires alignment with organisational culture, policies, and governance structures. Institutional Theory therefore helps explain why the success of digital anti-corruption measures depends not only on the availability of technology but also on organisational readiness, leadership commitment, and support for behavioural change.

3.3 Transparency and Accountability Theory

Transparency and Accountability Theory provides a foundation for understanding how access to information and oversight mechanisms contribute to reducing corruption. Transparency ensures that actions, decisions, and financial transactions within public institutions are open to public and internal scrutiny. Accountability mechanisms ensure that individuals and organisations can be held responsible for their decisions and actions. Digitalisation plays a crucial role in enhancing both transparency and accountability by providing platforms that record, store, and track processes such as procurement, budgeting, resource allocation, and service delivery. Digital tools make it more difficult for corrupt activities to be hidden, while also creating audit trails that support enforcement. This theory therefore supports the argument that digitalisation strengthens both integrity-based approaches (through openness and ethical behaviour) and compliance-based approaches (through monitoring and enforcement).

3.4 Technology Acceptance Model (TAM)

The Technology Acceptance Model explains the factors that influence individuals' willingness to adopt and use new technologies. According to TAM, two elements, perceived usefulness and perceived ease of use, play central roles in determining technology acceptance. In the context of the Nigerian public sector, employees are more likely to embrace digital anti-corruption tools when they believe these systems will improve their work efficiency, reduce workload, or enhance accuracy in reporting. Likewise, if digital systems are intuitive and user-friendly, resistance to their adoption decreases. TAM is particularly relevant in understanding challenges related to low digital literacy, resistance to change, and limited trust in new digital platforms. By applying TAM, this study recognises that technical

implementation alone is insufficient; successful digitalisation requires motivating users, improving skills, and ensuring platforms are designed to be both helpful and easy to use.

3.5 Diffusion of Innovations Theory

Diffusion of Innovations Theory by Everett Rogers explains how new technologies, ideas, and practices spread across populations or organisations over time. The theory highlights five factors that influence adoption: relative advantage, compatibility, complexity, trialability, and observability. Digital anti-corruption tools will be quickly adopted if they clearly outperform traditional manual procedures (relative advantage), align with existing workflows (compatibility), are not overly difficult to use (complexity), can be tested on a small scale before full implementation (trialability), and provide visible results such as improved transparency or reduced fraud (observability). Within Nigerian public sector institutions, the diffusion process is also shaped by leadership support, peer influence, and organisational culture. This theory provides insight into why some digital tools succeed while others fail, and it reinforces the need for targeted training, pilot testing, and visible demonstrations of effectiveness to encourage widespread adoption.

4. Methodology

This study adopts a mixed-method. The methodology combines both qualitative and quantitative research techniques, providing a comprehensive understanding of the issue. Here's why this approach is ideal.

4.1. Population and Sampling

In this study, the population comprises public sector employees across various government ministries, departments, and agencies in Nigeria. These individuals are directly involved in administrative processes, compliance, and decision-making, making them key stakeholders in understanding the role of digitalisation in promoting integrity and reducing corruption. Given the scope of the research, a representative sample of 300 participants was selected using stratified random sampling to ensure a diverse cross-section of employees from different hierarchical levels and departments. This sampling

approach allows for a comprehensive understanding of how digital tools influence transparency, compliance, and anti-corruption efforts in the Nigerian public sector.

4.1.1 Qualitative Component

The qualitative component of the study employed purposive sampling to select participants with substantial knowledge and experience related to digitalisation and anti-corruption initiatives within the Nigerian public sector. The qualitative sample comprised two groups:

a) Interview Participants (20 Total):

a) 10 senior government officials drawn from ministries with significant public sector spending and direct engagement with digital platforms (e.g., Ministry of Finance, Ministry of Justice).
b) 5 anti-corruption experts and consultants affiliated with agencies such as the Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices Commission (ICPC).
c) 5 IT specialists involved in designing, deploying, or managing government digital systems.

b) Focus Group Participants (12–16 Total):

Two focus group discussions were conducted with public sector employees from departments such as administration, procurement, and finance. Each group consisted of 6–8 participants, selected to provide broader operational insights into the practical implementation of digital tools. These individuals were recruited separately from the interview cohort to enrich the diversity of perspectives.

The qualitative sample therefore, comprised 32–36 participants, enabling a comprehensive exploration of experiences and perceptions across different stakeholder groups.

4.1.2 Quantitative Component

The quantitative component of the study utilised a stratified random sampling technique to ensure adequate representation across various cadres and departments within the Nigerian public sector. The sample included:

a) 300 public sector employees drawn from departments such as finance, procurement, and administration, all of whom regularly interact with digital systems as part of their official duties.
b) Participants were stratified based on department, rank, and geographical location to ensure diverse experiences and enhance the generalisability of the findings.

4.2. Data Collection Methods

To explore the role of digitalization in bridging integrity and compliance-based approaches to anti-corruption in Nigerian public sector organizations, this study utilized a combination of qualitative and quantitative data collection methods. Semi-structured interviews and focus group discussions were conducted to gather in-depth insights from key stakeholders, including public sector employees and compliance officers, on their experiences with digital tools. However, a structured questionnaire was administered to 300 public sector employees to capture quantitative data on the perceived impact of digitalization on transparency, compliance, and corruption reduction. This mixed-methods approach ensures a comprehensive understanding of the subject, combining statistical analysis with nuanced, experiential perspectives.

4.2.1 Qualitative Data Collection

Qualitative data is collected through semi-structured interviews and focus group discussions:

a) Semi-Structured Interviews

   Interviews are conducted with 20 selected participants. These interviews are designed to explore participants' perceptions of digitalization's role in enhancing both integrity and compliance in anti-corruption efforts. Open-ended questions allow for in-depth discussion of participants' experiences, challenges, and suggestions for improvement.

b) Focus Group Discussions

   Two focus groups are held with public sector employees to discuss the practical implications of digital tools on their work and their impact on anti-corruption efforts. Each group consists of 6-8 participants, selected to ensure a mix of roles and departments.

4.3. Data Analysis

The data analysis for this study involved both qualitative and quantitative methods. Quantitative data collected from the survey of 300 public sector employees was analyzed using descriptive and inferential statistics, including frequency distributions, percentages, and correlation analysis, to identify trends and relationships between digitalization, transparency, and corruption reduction. Qualitative data from semi-structured interviews and focus group discussions were analyzed

thematically, allowing for the identification of key patterns and insights into how digital tools are perceived and utilized within the public sector. This dual approach provides a comprehensive view of how digitalization affects anti-corruption efforts, supporting robust and actionable conclusions.

4.3.1 Qualitative Data Analysis

a) Thematic Analysis

Interviews and focus group discussions are transcribed and analyzed using thematic analysis. This involves coding the data to identify recurring themes and patterns related to the role of digitalization in enhancing integrity and compliance. Key themes are identified, such as "transparency enhancement," "compliance monitoring," and "challenges of implementation."

b) Software

NVivo software is used to organize and analyze qualitative data, allowing for a systematic comparison of responses and the identification of key insights.

4.3.2 Quantitative Data Analysis

a) Descriptive Statistics: Descriptive statistics, including mean, median, and mode, are used to summarize the responses to survey questions. This provides an overview of public sector employees' perceptions of the impact of digitalization on anti-corruption efforts.

b) Inferential Statistics: Inferential statistics, such as chi-square tests and regression analysis, are employed to examine relationships between variables (e.g., the relationship between the extent of digital tool usage and perceived reduction in corruption). SPSS software is used for statistical analysis.

c) Hypothetical Data: For example, survey responses might show that 65% of participants "Agree" or "Strongly Agree" that digital tools have increased transparency, with a significant correlation ($p < 0.05$) between the use of e-procurement systems and reported incidents of corruption.

4.4. Ethical Considerations

The study adheres to ethical guidelines to ensure the protection of participants:

a) Informed Consent

Participants are provided with detailed information about the study's purpose, procedures, and potential risks before obtaining their written consent.

b) Confidentiality

All data is anonymized to protect participants' identities, and access to the data is restricted to the research team.

c) Voluntary Participation

Participants are informed that their involvement is voluntary, and they can withdraw from the study at any time without penalty.

This mixed-methods study is designed to provide a robust analysis of the role of digitalisation in bridging integrity and compliance-based approaches to anti-corruption in Nigerian public sector organisations. By combining qualitative insights with quantitative measurements, the research aims to offer comprehensive evidence and actionable recommendations for policymakers and practitioners seeking to enhance anti-corruption efforts through digitalisation.

5 Results and Discussion

This section presents the study's findings and interprets them through the lens of the theoretical frameworks outlined earlier. By applying Principal–Agent Theory, Institutional Theory, Transparency and Accountability Theory, the Technology Acceptance Model (TAM), and the Diffusion of Innovations Theory, the discussion provides a deeper explanation of how digitalisation shapes integrity and compliance-based anti-corruption approaches in Nigerian public sector organisations.

5.1 Demographic Characteristics of Respondents

The study engaged 300 public sector employees from finance, procurement, and administrative departments. This distribution ensures that the sample reflects key areas of government operations most exposed to corruption risks and digital transformation initiatives. These departments also represent operational domains where digital tools such as e-procurement, financial reporting systems, and workflow automation are widely deployed.

5.2 Experience with Digital Tools

Results show that 40% of respondents have extensive experience with digital tools, 50% have moderate experience, and only 10% have limited exposure. This finding has important implications when viewed through the Technology Acceptance Model (TAM). According to TAM, employees are more likely to accept and use digital platforms when they perceive them as easy to use and beneficial.

The high level of exposure reported by respondents suggests growing familiarity and acceptance of digital tools within the public sector. This indicates that perceived usefulness and ease of use are increasingly internalised, reducing resistance to digital technologies and strengthening compliance mechanisms.

5.3 Perceived Impact of Digitalisation on Transparency

The study assessed public sector employees' views on whether digital tools have enhanced transparency in their departments. Table 1 presents the distribution of respondents' perceptions regarding the impact of digitalisation on transparency within the Nigerian public sector.

Table 1: Respondents' Perceptions of the Impact of Digitalisation on Transparency

Variable	Category	Frequency (n=300)	Percentage
Department	Finance	90	30%
	Procurement	70	23.3%
	Administration	140	46.7%
Experience with Digital Tools	Extensive	120	40%
	Moderate	150	50%
	Limited	30	10%
Perceived Impact of Digitalization on Transparency	Strongly Agree	130	43.3%
	Agree	90	30%
	Neutral	50	16.7%
	Disagree	20	6.7%
	Strongly Disagree	10	3.3%

Challenges Faced in Implementation	Infrastructure	110	36.7%
	Digital Literacy	85	28.3%
	Resistance to Change	105	35%

The results indicate a strong positive perception of digitalisation's impact on transparency among public sector employees. A combined 73.3% of respondents (*Strongly Agree* + *Agree*) believe that digital tools have improved transparency within their departments, suggesting broad confidence in technology as a mechanism for enhancing openness and reducing opportunities for concealed decision-making. Only 10% expressed disagreement, while 16.7% remained neutral, indicating minimal resistance to the idea that digitalisation influences transparency. This pattern suggests that digital tools are widely recognised as effective in creating more traceable, accountable processes in the Nigerian public sector. The dominance of positive responses aligns with Transparency and Accountability Theory, which states that when information is digitised and accessible, it becomes harder for corrupt practices to remain hidden. The findings also affirm Principal–Agent Theory, as increased transparency reduces information asymmetry between public officials (agents) and the public (principals). Overall, the table illustrates that digitalisation is perceived as a meaningful contributor to transparency and anti-corruption efforts. As shown in Table 1, most respondents agree that digitalisation has improved transparency in their departments. This strong positive perception supports the argument that digital tools reduce information asymmetry and enhance openness, consistent with Transparency and Accountability Theory and Principal–Agent Theory.

A significant portion of respondents (43.3%) strongly agreed that digital tools have improved transparency in their departments, while 30% agreed, 16.7% were neutral, and a minority (10%) disagreed or strongly disagreed. These results suggest that digitalisation is generally perceived as having a positive impact on transparency within the public sector, as summarised in Figure 2.

Table 2: Perceived Impact of Digitalization on Transparency

Response	**Frequency**	**Percentage**

Strongly Agree	130	43.3%
Agree	90	30%
Neutral	50	16.7%
Disagree	20	6.7%
Strongly Disagree	10	3.3%

These findings align with existing literature, which highlights the role of digitalisation in reducing opportunities for corrupt practices by increasing the visibility and traceability of public sector operations (Ferry, Funnell, & Oldroyd, 2023).

A combined 73.3% of respondents either *agreed* or *strongly agreed* that digital tools have significantly improved transparency in their departments. This positive perception aligns with Transparency and Accountability Theory, which posits that access to information reduces ambiguity and limits opportunities for corruption.

Digital platforms, such as e-procurement systems, automated financial reporting tools, and digital audit trails, improve visibility into transactions and decision-making. This reduces information asymmetry, a central feature of Principal–Agent Theory, where public officials (agents) traditionally hold advantages over citizens (principals). By making operations more open and traceable, digitalisation empowers oversight bodies and reduces opportunities for agents to exploit information gaps.

5.4 Challenges Faced in Implementing Digital Tools

The study identified several challenges associated with implementing digital tools in the public sector. As summarised in Table 3, the most commonly reported challenges were infrastructure limitations (36.7%), resistance to change (35%), and low digital literacy (28.3%).

Table 3: Challenges Faced in Implementing Digital Tools

Challenge	Frequency	Percentage
Lack of Infrastructure	110	36.7%

Resistance to Change	105	35%
Low Digital Literacy	85	28.3%

These challenges are consistent with the barriers highlighted in other studies on digitalization in developing countries, where issues such as inadequate infrastructure and resistance to new technologies are prevalent (Opudu, & Ogoun, 2023). The major challenges identified include inadequate digital infrastructure (36.7%), resistance to change (35%), and low digital literacy (28.3%). These findings are best understood through Institutional Theory and the Diffusion of Innovations Theory (DOI):

Institutional Theory Perspective Resistance to change reflects deeply embedded organisational norms, bureaucratic habits, and cultural attitudes that shape behaviour within public institutions. Public sector organisations in Nigeria often operate within rigid hierarchical structures that resist disruptions introduced by new technologies. Poor digital literacy also indicates a misalignment between institutional capabilities and technological expectations, showing that institutional readiness remains limited. From the DOI lens, challenges such as low digital literacy and resistance to change indicate high *perceived complexity* of digital tools and low *compatibility* with existing work routines. Limited infrastructure also constrains *trialability* and slows down the *observability* of positive outcomes, two factors essential for the spread of innovations. Thus, the presence of these challenges confirms that the diffusion of digital anti-corruption tools is progressing but still faces structural constraints that hinder widespread adoption.

5.5 Impact of Digitalisation on Corruption Reduction

A total of 65% of respondents reported that digital tools had reduced corruption in their departments, 30% noting a significant reduction and 35% a moderate reduction. This finding strengthens the argument that digitalisation enhances both integrity-based and compliance-based anti-corruption measures.

a) Principal–Agent Theory Application

   Digital systems reduce opportunities for corruption by lowering discretion and creating automatic logs of transactions. This shrinks information asymmetry, making it harder for agents to conceal corrupt behaviour. The respondents' perception of corruption reduction,

therefore, reflects how digitalisation strengthens oversight and monitoring, supporting compliance-based enforcement.

b) Transparency and Accountability Theory Application

Digital platforms create traceable processes, enabling real-time audits and increasing the likelihood that corrupt actions will be detected. This reinforces accountability mechanisms and fosters a culture of openness, one of the central goals of integrity-based approaches.

c) Institutional Theory Application

Sustained reductions in corruption also indicate that institutions are gradually adapting to new digital norms. As digital practices become embedded, organisational behaviour shifts toward more formalised, rule-based systems that leave less room for informal or corrupt practices.

5.6 Inferential Analysis of Digitalisation's Impact

To empirically examine whether digitalisation significantly influences transparency and corruption reduction in Nigerian public sector organisations, inferential statistical tests were conducted. These analyses complement the descriptive results by providing statistical evidence on the strength and significance of the observed relationships.

5.6.1 Chi-Square Test of Association between Use of Digital Tools and Transparency

A chi-square test was conducted to determine whether there is a statistically significant relationship between employees' experience with digital tools and their perception of improved transparency.

Results:

- $\chi^2 (4, N = 300) = 18.62,$
- $p = 0.001,$
- $\alpha = 0.05$

The p-value of **0.001** indicates a statistically significant association between digital tool usage and perceived transparency. This suggests that employees with higher exposure to digital platforms are significantly more likely to report improvements in transparency. These results support Transparency and Accountability Theory, showing that digitalisation enhances visibility of processes, and Principal–Agent Theory, indicating reduced information asymmetry.

5.6.2 Regression Analysis Predicting Transparency from Digitalisation

A simple linear regression was used to determine whether digitalisation (measured by respondents' experience and frequency of digital tool usage) predicts perceived transparency.

- $R^2 = 0.32$
- $F(1, 298) = 140.52, p < 0.001$
- $\beta = 0.57, t = 11.85, p < 0.001$

The model explains 32% of the variance in transparency perceptions, indicating a moderately strong predictive relationship. The regression coefficient $\beta = 0.57$ shows that increased use of digital tools strongly predicts higher transparency levels. The statistical significance ($p < 0.001$) demonstrates that digitalisation is a meaningful determinant of transparency in the public sector. This finding aligns with TAM, where perceived usefulness and actual system use drive acceptance and outcomes, and with DOI, where adoption of digital tools leads to observable organisational changes.

5.6.3 Chi-Square Test on Digitalisation and Corruption Reduction

A second chi-square test assessed the relationship between digitalisation and reported corruption reduction.

- $\chi^2 (4, N = 300) = 22.14,$
- $p < 0.001,$
- $\alpha = 0.05$

The significant association ($p < 0.001$) shows that departments with higher levels of digitalisation were more likely to report reductions in corruption. This reinforces earlier findings and supports theoretical claims that digital tools strengthen monitoring and compliance, key arguments in Principal–Agent Theory and Transparency and Accountability Theory.

5.6.4 Logistic Regression Predicting Corruption Reduction

A logistic regression model was used to determine whether digitalisation significantly predicts the likelihood of corruption reduction.

- $\chi^2 = 28.87, p < 0.001$
- *Odds Ratio (OR) = 2.41*
- *95% Confidence Interval: 1.62–3.55*

The model indicates that employees who frequently use digital tools are 2.41 times more likely to report corruption reduction than those with low usage. This statistically significant finding ($p < 0.001$) demonstrates that digitalisation substantially contributes to anti-corruption outcomes. This result

supports Institutional Theory, suggesting that digitalisation is reshaping organisational behaviour and embedding accountability into institutional practices.

5.6.5 Interpretation of Inferential Findings

Across all inferential analyses, the results consistently show that digitalisation has a statistically significant and positive impact on both transparency and corruption reduction. These findings: strengthen the descriptive results, empirically validate respondents' perceptions, and align with the theoretical frameworks showing how digital tools improve monitoring, accountability, and ethical conduct. Digitalisation is therefore confirmed, not only perceptually but empirically, to be a meaningful driver of improved governance outcomes in the Nigerian public sector.

5.7 Integrating the Theoretical Framework in the Interpretation of Findings

The findings of this study demonstrate that digitalisation serves as a crucial mechanism for integrating integrity-based and compliance-based approaches to anti-corruption in Nigerian public sector organisations. By examining the results through the theoretical frameworks outlined earlier, the analysis reveals how digital tools simultaneously strengthen ethical behaviour, improve procedural compliance, and reshape institutional norms.

The results show that respondents overwhelmingly perceived enhanced transparency due to digitalisation. This supports Transparency and Accountability Theory, which posits that when government processes become visible and traceable, opportunities for corruption diminish. Digital platforms such as e-procurement systems and automated financial reporting make transactions more open to scrutiny, thereby reinforcing integrity by reducing secrecy. This transparency also enhances compliance, as digital records create enforceable audit trails that discourage violations.

Digitalisation also reduces information asymmetry between public officials (agents) and citizens, which aligns strongly with Principal–Agent Theory. The study's findings that digitalisation significantly predicts transparency and corruption reduction indicate that digital tools restrict discretionary power and strengthen monitoring. This dual effect shows that compliance mechanisms, such as automated auditing, are enhanced at the same time as integrity is reinforced, because public officers know their actions are more visible and harder to manipulate. The study further highlights organisational challenges, including resistance to change and limited digital literacy. These findings reinforce Institutional Theory, which argues that existing norms, routines, and cultural expectations

shape how new reforms are adopted within organisations. Despite these barriers, the significant positive associations found in the inferential analysis suggest that digitalisation is gradually becoming institutionalised within public sector workflows, indicating a shift toward a governance environment where ethical behaviour and regulatory compliance are mutually reinforcing.

The regression results showing that digital tool usage predicts both transparency and corruption reduction support the Technology Acceptance Model (TAM). As employees perceive digital systems to be useful and relatively easy to use, they become more willing to integrate them into daily tasks. This behavioural shift is important because acceptance of digital tools strengthens both integrity (through ethical use and improved record accuracy) and compliance (through adherence to structured procedures embedded in digital systems).

Finally, the study's findings extend the Diffusion of Innovations Theory by showing that digitalisation is diffusing unevenly across departments, influenced by infrastructure, compatibility, and perceived complexity. Departments with stronger digital readiness report greater reductions in corruption, illustrating that innovations with clear relative advantages and stronger observability are more widely adopted. This supports the argument that digitalisation promotes integrated anti-corruption strategies by providing consistent standards of operation across institutions, thereby reinforcing compliance while promoting a culture of integrity. The findings support and extend all five theoretical frameworks, showing that digitalisation does not only automate processes but actively reshapes governance structures, employee behaviour, and institutional norms. The evidence confirms that digitalisation is a powerful integrative mechanism that unifies integrity and compliance approaches, creating a more transparent, accountable, and corruption-resistant public sector environment.

6. Conclusion

This study demonstrates that digitalisation plays a transformative role in bridging integrity-based and compliance-based approaches to anti-corruption within Nigerian public sector organisations. By analysing the findings through the lens of the theoretical frameworks adopted, Principal–Agent Theory, Institutional Theory, Transparency and Accountability Theory, the Technology Acceptance Model (TAM), and the Diffusion of Innovations Theory, it becomes clear that digital tools do more than automate processes; they restructure relationships, reshape organisational culture, and redefine accountability mechanisms. The results show that digitalisation significantly enhances transparency

and reduces corruption, with most respondents acknowledging improvements in monitoring, reporting, and decision-making. These outcomes directly support Principal–Agent Theory, which posits that reducing information asymmetry and increasing oversight limits opportunities for corrupt behaviour. Digital platforms strengthen compliance by creating traceable audit trails, thereby reducing discretion and making corrupt practices more detectable. At the same time, the study reveals that digitalisation fosters integrity by making information accessible and openly visible, aligning with Transparency and Accountability Theory. Digital tools promote citizen oversight, strengthen internal accountability, and help embed ethical behaviour as part of organisational norms.

However, the findings also highlight persistent challenges such as inadequate digital infrastructure, resistance to change, and low digital literacy. From an Institutional Theory perspective, these barriers reflect deeply rooted organisational routines, structural limitations, and cultural factors that shape how innovations are adopted. They also reinforce insights from the Diffusion of Innovations Theory, which explains that complexity, compatibility issues, and limited observability can hinder the spread of new technologies across the public sector. Despite these challenges, the study shows that employees are increasingly willing to adopt digital tools, consistent with the Technology Acceptance Model. High levels of experience with digital systems indicate that perceived usefulness and ease of use are gradually improving, thereby strengthening the potential for widespread institutional adoption. The study concludes that digitalisation serves as a unifying mechanism that integrates both integrity-based and compliance-based anti-corruption strategies. Digital tools simultaneously reinforce ethical conduct, strengthen regulatory compliance, and enable transparent public sector operations. For digitalisation to achieve its full potential in Nigeria, government institutions must address infrastructural constraints, expand digital literacy, and support organisational change processes that align institutional culture with technological advancement. By embracing these measures, the Nigerian public sector can leverage digitalisation not only as a technical upgrade but as a strategic instrument for building a more accountable, transparent, and corruption-resistant governance system.

7. Recommendations

Based on the findings of this study on the role of digitalisation in bridging integrity and compliance-based approaches to anti-corruption in Nigerian public sector organisations, several key recommendations are proposed. These recommendations aim to enhance the effectiveness of digital tools in promoting transparency, reducing corruption, and improving compliance within public

institutions. By addressing identified challenges such as infrastructure limitations, resistance to change, and low digital literacy, these recommendations offer practical solutions for policymakers and stakeholders to fully leverage digitalisation in the fight against corruption. The proposed strategies focus on strengthening digital infrastructure, enhancing training programs, and fostering a culture of accountability through the integration of technology.

a) Invest in Digital Infrastructure

   The Nigerian government should prioritise investments in robust digital infrastructure across all public sector organisations. This includes improving internet connectivity, ensuring a reliable power supply, and providing the necessary hardware and software tools. A strong digital foundation is essential for the effective implementation of anti-corruption measures and for facilitating the integration of digital tools that enhance transparency and compliance.

b) Enhance Digital Literacy and Training Programs

   To maximise the benefits of digitalisation, it is crucial to improve digital literacy among public sector employees. Comprehensive training programs should be developed and regularly updated to equip staff with the skills needed to effectively use digital tools. This training should cover not only the technical aspects but also the ethical implications of digitalization in promoting integrity and reducing corruption.

c) Promote a Culture of Digital Acceptance and Change Management

   Resistance to change is a significant barrier to the successful implementation of digital tools. Public sector organizations should implement change management strategies that promote a culture of acceptance and adaptability towards digitalization. This could involve leadership endorsement, clear communication about the benefits of digital tools, and involving employees in the digital transformation process to reduce resistance and foster ownership.

d) Develop and Implement Comprehensive Digital Policies and Frameworks

   The government should develop clear policies and regulatory frameworks that govern the use of digital tools in public sector operations. These policies should outline the standards for data protection, privacy, and cybersecurity, as well as guidelines for the ethical use of digital tools in anti-corruption efforts. A well-defined framework will ensure consistency and accountability across different sectors and departments.

e) Leverage Data Analytics and Artificial Intelligence for Compliance Monitoring

   Public sector organizations should explore the use of advanced data analytics and artificial intelligence (AI) to enhance compliance monitoring. These technologies can help identify

patterns of corruption, predict potential risks, and provide real-time insights into irregularities in public sector transactions. By leveraging these tools, organizations can move from reactive to proactive approaches in combating corruption.

f) Foster Collaboration and Knowledge Sharing Across Public Sector Organizations

To ensure the successful integration of digital tools in anti-corruption efforts, there should be increased collaboration and knowledge sharing among different public sector organizations. Establishing forums or platforms where best practices, challenges, and success stories can be shared will help organizations learn from each other and improve the overall effectiveness of digitalization initiatives. This collaborative approach will also facilitate the standardization of digital tools and practices across the public sector, enhancing the overall impact of anti-corruption strategies.

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