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Accountability and Transparency through E-Governance: A Review

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Abstract **Review Article**

This study challenges the existing knowledge that, traditionally, accountability was perceived as a retrospective mechanism focused on compliance and sanction after governance failures occur. As such, e-governance emerged as a transformative mechanism for improving accountability and transparency in public administration. This study majorly reviews literature from 2010 - 2025 using PRISMA methodology across Scopus, Web of Science and Google Scholar databases. Findings reveal that digital governance enhances transparency through open data and real-time disclosure while strengthening accountability via auditability and traceability. However, institutional weaknesses and digital divides remain key barriers. The study, at first, proposes a Digital Accountability-Transparency (DAT) model, as well advancing a new paradigm in development studies. Second, we argue that accountability in digital governance is a proactive, continuous and data-driven process embedded within real-time transparency systems. This perspective shifts the paradigm from reactive accountability to proactive accountability; static transparency to interactive transparency and finally, hierarchical governance to networked digital governance. Policymakers should draw lessons from this change.

Keywords: E-governance, accountability, transparency, digital governance, PRISMA, e-government.

1. INTRODUCTION

E-governance represents the integration of information, communication and technology (ICT) into governance processes to enhance service delivery, participation and institutional effectiveness (Dike, 2019; Isah et al., 2024). The Fourth Industrial Revolution has accelerated this transformation, positioning digital governance as central to transparency and trust-building in modern states (Detthamrong et al., 2025). Empirical evidence indicates that e-governance significantly improves fiscal transparency and citizen participation, thereby strengthening democratic accountability (Taiwo, 2025).

Despite the rapid global diffusion of e-governance, the assumption that digitalization automatically leads to improved accountability and transparency remains highly contested. While governments increasingly deploy digital platforms, such as e-procurement systems, open data portals and integrated financial management systems, evidence on their effectiveness is mixed and context-dependent. In many developing countries, including those in Sub-Saharan

Africa, digital initiatives have often coexisted with persistent corruption, weak institutional enforcement and limited citizen trust.

Empirical studies suggest that e-governance can enhance transparency by improving access to public information and reducing information asymmetry between the state and citizens (Bertot, Jaeger, & Grimes, 2010; Meijer, Curtin, & Hillebrandt, 2012). However, more recent research indicates that transparency does not necessarily translate into accountability unless supported by strong institutional frameworks and enforcement mechanisms (Fox, 2015; Peixoto & Fox, 2016). This disconnect raises a fundamental concern: can digital transparency alone generate meaningful accountability outcomes?

Furthermore, the proliferation of digital governance tools has introduced new governance risks. Issues such as data manipulation, cybersecurity vulnerabilities and algorithmic opacity have complicated the accountability landscape (Wirtz, Weyerer, & Geyer, 2019; Zuiderwijk, Shinde, & Janssen, 2019). In some contexts, digital systems have even reinforced existing power asymmetries, limiting citizen participation rather than enhancing it (Heeks, 2020).

Recent empirical contributions (2020-2025) reinforce these concerns. For instance, Taiwo (2025) finds that while e-governance improves budget transparency, its impact on accountability is mediated by political will and institutional quality. Similarly, studies by the OECD (2023) and World Bank (2022) highlight that digital government reforms often fail to achieve expected outcomes due to weak governance structures and digital exclusion.

The problem is further compounded by the digital divide, particularly in developing economies, where unequal access to ICT infrastructure limits the inclusiveness of e-governance initiatives (UN, 2022). Without equitable access, transparency mechanisms may only benefit a narrow segment of the population, thereby undermining the broader goals of democratic accountability.

Thus, the central problem addressed in this study is the fragmented and inconclusive understanding of how e-governance influences accountability and transparency, particularly in contexts characterized by institutional weaknesses. Although current scholarship recognizes the promise of digital governance, it does not offer an integrated framework that coherently analyzes how transparency, accountability, and development outcomes interact.

Guided by this gap, the study is structured around the following research questions:

i. How has e-governance evolved as a tool for accountability and transparency?

ii. What mechanisms enable e-governance to promote transparency and accountability?

iii. What challenges constrain the effectiveness of e-governance systems?

iv. What is the most suitable theoretical framework for understanding the interplay of accountability and transparency in digital governance?

Building on the identified research gaps and questions, this study seeks to systematically investigate how e-governance fosters accountability and transparency in public sector institutions. Specifically, the study seeks to explore the historical evolution of e-governance as a governance paradigm, identifying the key technological and institutional shifts that have shaped its development. Additionally, it investigates the mechanisms by which digital governance tools drive greater transparency and accountability, paying particular attention to open data systems, auditability and citizen engagement platforms.

In addition, the study evaluates the major challenges and constraints associated with the implementation of e-governance systems, including institutional weaknesses, digital inequality and governance risks. The final objective is to develop a new integrated framework combining e-governance, accountability and transparency that can explain governance performance in developed and developing contexts.

2. METHODOLOGY

2.1 Research Design

This study adopts a systematic literature review (SLR) design to synthesize existing empirical and theoretical evidence on e-governance, accountability and transparency. The SLR approach is particularly appropriate for this study as it enables a structured and replicable process of identifying, evaluating and integrating findings from diverse studies across multiple disciplines. By employing a systematic approach, the study minimizes bias and enhances the reliability and validity of its conclusions (Tranfield, Denyer, & Smart, 2003).

2.2 Data Sources and Search Strategy

The literature search was conducted using three major academic databases: Scopus, Web of Science and Google Scholar, which are widely recognized for indexing high-quality and peer-reviewed research. Additional sources such as SpringerLink, ScienceDirect and institutional reports from organizations like the World Bank and OECD were also consulted to ensure comprehensive coverage.

The search strategy involved the use of carefully selected keywords and Boolean operators, including:
"e-governance AND accountability,"
"digital governance AND transparency," and
"ICT AND public sector performance."

The search was limited to publications between 2010 and 2025, with particular emphasis on recent studies (2020–2025) to capture current trends and developments in digital governance.

2.3 Inclusion and Exclusion Criteria

To ensure the relevance and quality of the selected studies, specific inclusion and exclusion criteria were applied. Studies were included if they were peer-reviewed journal articles, written in English and directly addressed issues related to e-governance, accountability, or transparency. Both empirical and theoretical studies were considered to provide a comprehensive perspective.

Studies were excluded if they were not peer-reviewed, lacked clear methodological rigour, or did not directly relate to governance outcomes. Conference papers, opinion pieces and non-academic sources were also excluded unless they provided significant conceptual insights.

2.4 Screening and Selection Process

The study followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure transparency in the selection process (Page et al., 2022; Oduro & Agbevade (2026). An initial pool of approximately 180 studies was identified through database searches. After removing duplicates, 140 studies remained for title and abstract screening. Further screening based on relevance and methodological quality resulted in 75 studies being assessed for eligibility. Ultimately, 53 studies were selected for inclusion in the final analysis.

2.5 Data Analysis Technique

The selected studies were analysed using a thematic approach. This involves identifying, categorising and integrating recurring themes across the literature. This method allows for the systematic organisation of findings into coherent thematic areas, including the evolution of e-governance, mechanisms of transparency and accountability and implementation challenges.

Thematic analysis was complemented by a narrative synthesis, enabling the study to interpret and contextualise findings within broader theoretical and policy frameworks. This combined approach enhances the depth and rigour of the analysis while facilitating the development of a new conceptual framework.

3. LITERATURE FINDINGS

3.1 Conceptualisation of Core Constructs

A coherent understanding of the relationship between e-governance, accountability and transparency requires careful conceptual clarification. These constructs are often used interchangeably despite their analytical distinctions. The literature distinguishes between e-government and e-governance as related but conceptually different phenomena.

E-government primarily refers to the application of information and communication technologies (ICTs) by public institutions to improve the efficiency of service delivery and administrative processes (Marche & McNiven, 2003; UN, 2022). It is largely operational in nature, focusing on digitizing government functions such as tax administration, licensing and public service provision. In contrast, e-governance represents a broader paradigm that encompasses not only service delivery but also the transformation of governance processes, including policy formulation, citizen participation and institutional accountability (Bannister & Connolly, 2012; Rossel & Finger, 2007). Thus, while e-government is concerned with 'doing government better,' e-governance is concerned with 'doing governance differently.' This idea supports Grigalashvili (2022) argument that e-government operates as a system, while e-governance functions as a process. Also, e-government relies on a one-way communication protocol, whereas e-governance employs a two-way communication protocol (Palvia, & Sharma, 2007, KPJ, n.d).

Accountability and transparency, although closely linked, also possess distinct conceptual foundations. Accountability refers to the obligation of public officials and institutions to justify their actions, accept responsibility and be subject to sanctions in cases of misconduct or inefficiency (Fox, 2015; Halachmi & Greiling, 2013). It encompasses both vertical accountability, where citizens hold government actors accountable and horizontal accountability. This involves institutional checks and balances within the state apparatus. Transparency, on the other hand, is concerned with the openness and accessibility of government information, enabling citizens and stakeholders to monitor public actions (Meijer, Curtin, & Hillebrandt, 2012; Bertot, Jaeger, & Grimes, 2010). Transparency reduces information asymmetry and is widely regarded as a necessary, though not sufficient, condition for accountability.

Taken together, these concepts form the analytical foundation of this study. E-governance provides the institutional and technological infrastructure, transparency ensures information availability and accountability which reflects the critical governance outcome.

3.2 Conceptual Dispersion and Equilibrium Point

Despite their interconnections, the literature reveals a notable dispersion among these constructs, which has contributed to fragmented theoretical and empirical outcomes. E-government initiatives have historically prioritized efficiency and service delivery, often neglecting broader governance objectives. E-governance frameworks emphasize participation and institutional transformation but sometimes lack enforceable accountability mechanisms. Similarly, transparency initiatives frequently focus on information disclosure without ensuring that such information translates into actionable accountability (Peixoto & Fox, 2016).

This dispersion creates a critical gap in governance outcomes. Increased transparency does not automatically result in improved accountability. As Fox (2015) contends, transparency in the absence of accountability may result in "opaque transparency," a condition in which information exists but fails to drive meaningful governance improvements.

The equilibrium point among these constructs is achieved when digital governance systems simultaneously facilitate openness and enforce answerability. In this state, e-governance platforms enable real-time information sharing (transparency) while embedding mechanisms for monitoring, evaluation and sanction (accountability). This equilibrium is further strengthened by institutional capacity and active citizen engagement, which together transform governance into a dynamic, feedback-driven system rather than a linear administrative process.

3.3 Historical Evolution of the E-Governance-Accountability Nexus

The evolution of e-governance reflects a gradual shift from efficiency-oriented reforms to more complex governance transformations. Early contributions emphasized the potential of ICT to improve administrative efficiency and service

delivery (Saxena, 2005; Malick & Murthy, 2001). Subsequently, the focus shifted toward transparency and anti-corruption, with studies demonstrating how digital platforms could reduce information asymmetry and enhance public misunderstanding (Bertot et al., 2010; Pina, Torres, & Acerete, 2007).

In recent years, research has increasingly highlighted the impact of emerging technologies like artificial intelligence, big data and blockchain on governance outcomes (Wirtz, Weyerer, et al., 2019; Detthamrong et al., 2025). These technologies have enabled the development of integrated digital governance ecosystems characterized by real-time data processing, predictive analytics and enhanced citizen participation. This shift marks a transition from static models of governance to dynamic, adaptive systems that continuously respond to societal needs.

3.4 Regional and Thematic Evidence

The empirical literature reveals significant regional variations in the effectiveness of e-governance in promoting accountability and transparency. These variations are largely driven by differences in institutional capacity, technological infrastructure and socio-political contexts.

In Africa, studies consistently highlight the transformative potential of e-governance alongside persistent structural constraints. For instance, Oduro and Agbevade (2026) demonstrate that e-governance initiatives in Ghana have significantly improved transparency by enhancing access to government information. However, the study also finds that accountability outcomes remain limited due to weak institutional enforcement mechanisms. Shenkoya (2023) similarly argues that digital transformation in Nigeria has boosted transparency without yielding equivalent gains in accountability, attributing this gap to governance challenges and insufficient political will. Evidence from Tanzania (Temba, 2025) and subnational studies in Nigeria (Utile & Agbanyi, 2025; Anikeze et al., 2026) further confirms that while digital systems enhance financial transparency, their impact on accountability is mediated by institutional quality and digital literacy.

In Asia, the relationship between e-governance, transparency and accountability appears more robust, largely due to stronger institutional frameworks and higher levels of digital adoption. Experimental evidence from India shows that digital financial management systems significantly reduce leakages in public programmes, thereby strengthening accountability (Banerjee et al., 2020). Similarly, Sharmin and Chowdhury (2025) find that digital transformation enhances both transparency and administrative efficiency in public governance. Studies on citizen participation (Munir et al., 2024) and crisis governance (Yen, 2020) further demonstrate that active engagement and state–society synergy are critical in translating transparency into accountability.

In Europe and other OECD contexts, the literature reflects a higher level of maturity in digital governance systems. Comparative analyses indicate that ICT adoption has a positive impact on government accountability, although outcomes vary depending on institutional arrangements (Pina et al., 2007). The OECD (2023) highlights digital government maturity as a key driver of transparency, trust and public value creation. However, even in these advanced contexts, challenges such as data fragmentation, governance complexity and privacy concerns persist (Zuiderwijk et al., 2019; Doshi & Schmidt, 2024).

3.5 Thematic Synthesis

Across regions, the literature converges around several key themes. First, digital infrastructure emerges as a fundamental enabler of transparency and accountability, providing the technological backbone for information sharing and monitoring (UN, 2022; World Bank, 2022). Second, transparency is widely recognised as a necessary precondition for accountability, although it does not guarantee it. Third, accountability is increasingly understood as an outcome that depends on institutional capacity, enforcement mechanisms and governance quality (Heeks, 2020). Finally, citizen engagement plays a critical mediating role,

enhancing the effectiveness of transparency initiatives and strengthening accountability mechanisms (Munir et al., 2024).

4. DIGITAL ACCOUNTABILITY-TRANSPARENCY (DAT) MODEL

Building on the foregoing analysis, this study proposes a Digital Accountability-Transparency (DAT) model DAT model represents an integrative framework for understanding the interaction between e-governance, transparency and accountability.

The DAT model conceptualises e-governance as the foundational layer that enables both transparency and accountability mechanisms. Transparency is operationalised through open data systems, information disclosure platforms and real-time communication channels. The accountability is realised through auditability, monitoring systems and enforcement mechanisms. These relationships are mediated by institutional capacity and citizen engagement, which jointly determine the extent to which transparency translates into accountability.

The model posits that governance outcomes such as trust, efficiency and reduced corruption, are the result of a dynamic interaction between these components. Importantly, the DAT model emphasises feedback loops, where citizen engagement and institutional learning continuously refine governance processes.

4.1 Theoretical Foundation of DAT Model

The proposed model is grounded in a synthesis of three complementary theoretical perspectives. First, Principal-Agent Theory (PAT) provides a basis for understanding how transparency reduces information asymmetry between citizens (principals) and government actors (agents), thereby enhancing accountability (Banerjee et al., 2020). Second, Institutional Theory (IT) underscores the role of formal and informal structures in shaping governance outcomes, highlighting the importance of regulatory frameworks and organisational capacity (Heeks, 2020). Finally, Digital-Era Governance Theory (DEGT) emphasises the transformative potential of digital technologies in reshaping governance systems. This moves from hierarchical structures to networked and data-driven models (Wirtz et al., 2019).

4.2 Theoretical Contribution

The DAT model advances a new philosophical perspective in governance and development studies by re-conceptualising accountability as a proactive and continuous process rather than a retrospective mechanism. In this framework, transparency is not merely about information disclosure. It is about enabling real-time interaction between government and citizens. Consequently, accountability evolves into a dynamic, data-driven process embedded within digital governance systems.

This perspective represents a shift from traditional compliance-based governance toward adaptive, feedback-oriented governance, where decisions are continuously informed by data, citizen input and institutional learning.

4.3 Literature Gap and DAT Framework

Despite extensive research on e-governance, significant gaps remain. Existing studies often treat transparency and accountability as independent outcomes rather than interdependent processes. Moreover, regional disparities highlight the importance of contextual factors, particularly institutional capacity and digital inclusion. Most importantly, there is a lack of a unified theoretical framework that integrates these elements into a coherent model.

The DAT model addresses this gap by providing a comprehensive and system-based explanation of the accountability-transparency nexus, offering both theoretical advancement and practical relevance for policymakers and researchers.

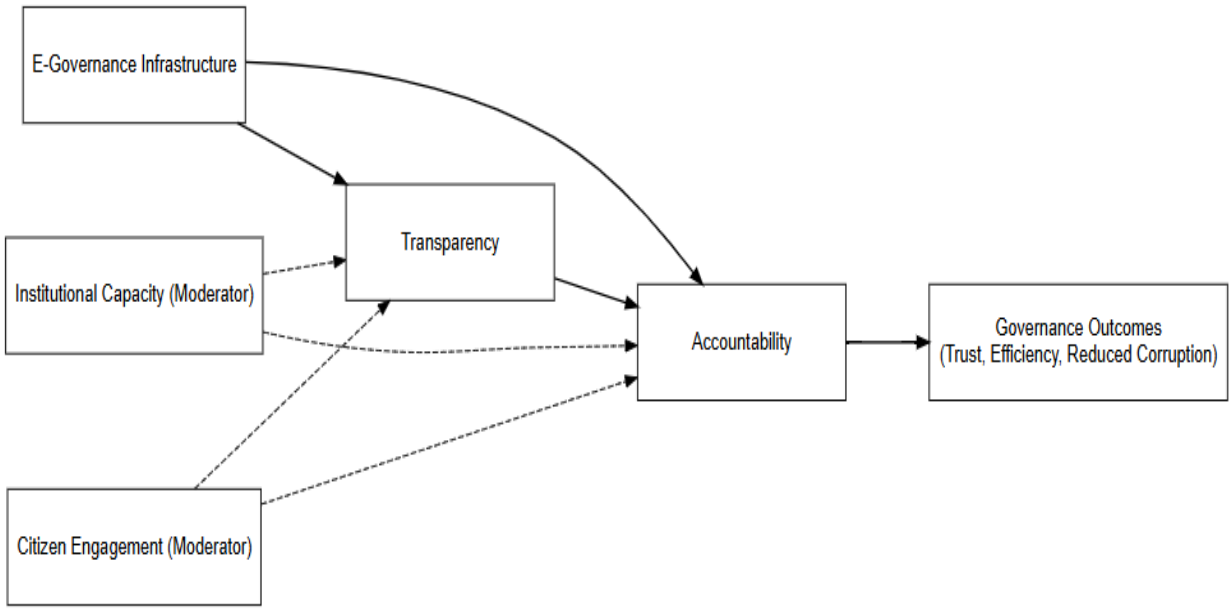

Figure 1: Digital Accountability-Transparency (DAT) Model

5. FUTURE TESTABLE HYPOTHESES FOR AN EMPIRICAL EXTENSION

We develop seven hypotheses arising from the DAT model in Figure 1 for future empirical examination. They are stated in alternative hypothesis (H_1).

Hypotheses Development - Theoretical Logic

The hypotheses are grounded within the realm of three theories comprising Principal-Agent Theory (PAT), Institutional Theory (IT) and Digital Governance Theory (DGT).

H_1: E-Governance → Transparency

Hypothesis (H_1): E-governance has a positive and significant effect on transparency.

E-governance systems enhance the accessibility, timeliness and accuracy of government information through digital platforms such as open data portals and e-budgeting systems. By reducing information asymmetry between government and citizens, these systems foster greater openness in public administration. Empirical evidence suggests that ICT adoption significantly improves transparency by enabling real-time information dissemination and public scrutiny (Bertot et al., 2010; Taiwo, 2025). Therefore, the deployment of e-governance infrastructure is expected to positively influence transparency outcomes.

H2: E-Governance → Accountability

Hypothesis (H_1): E-governance has a positive and significant effect on accountability.

E-governance enhances accountability by embedding traceability and auditability into administrative processes. Digital systems such as e-procurement and integrated financial management platforms create verifiable records of transactions, thereby enabling monitoring and enforcement. From a Principal–Agent perspective, this reduces opportunistic behavior by public officials. Empirical findings (Banerjee et al., 2020; Shenkoya, 2023) confirm that digital systems can significantly improve accountability when properly implemented.

H3: Transparency → Accountability

Hypothesis (H_1): Transparency positively influences accountability.

Transparency is widely regarded as a necessary condition for accountability, as it provides the information required for monitoring and evaluation. However, transparency alone is insufficient unless accompanied by enforcement mechanisms. According to the literature, when more information is available, citizens can more effectively demand accountability, leading to better governance outcomes (Fox, 2015; Meijer et al., 2012). Thus, transparency is expected to exert a positive influence on accountability.

H4: *Accountability → Governance Outcomes*

Hypothesis (H_1): Accountability has a positive and significant effect on governance outcomes.

Accountability mechanisms improve governance outcomes by ensuring that public officials are answerable for their actions and subject to sanctions. This leads to improved efficiency, reduced corruption and enhanced public trust. Empirical studies demonstrate that stronger accountability systems are associated with better development outcomes and institutional performance (Heeks, 2020; World Bank, 2022). Therefore, accountability is expected to significantly enhance governance outcomes.

H5: *Transparency → Governance Outcomes (Indirect via Accountability)*

Hypothesis (H_1): Transparency indirectly influences governance outcomes through accountability.

While transparency provides the informational basis for governance improvements, its impact on outcomes is often mediated by accountability mechanisms. Without enforcement, transparency may not translate into tangible improvements. This mediating relationship aligns with the transparency-accountability gap identified in the literature (Peixoto & Fox, 2016). Hence, transparency is expected to influence governance outcomes indirectly through accountability.

H6: *Institutional Capacity as Moderator*

Hypothesis (H_1): Institutional capacity positively moderates the relationship between e-governance and accountability/transparency.

Institutional capacity, including regulatory frameworks, administrative competence and technical expertise, plays a critical role in determining the effectiveness of e-governance systems. Strong institutions enhance the implementation and enforcement of digital governance initiatives, thereby strengthening both transparency and accountability outcomes (OECD, 2023). In weak institutional environments, however, the impact of e-governance may be limited. Therefore, institutional capacity is expected to moderate these relationships positively.

H7: *Citizen Engagement as Moderator*

Hypothesis (H_1): Citizen engagement positively moderates the relationship between transparency and accountability.

Citizen engagement enhances the effectiveness of transparency by transforming information into actionable accountability. Participatory mechanisms such as online feedback systems and digital consultations empower citizens to hold government accountable. Studies show that active citizen participation strengthens the link between transparency and accountability (Munir et al., 2024). Thus, higher levels of engagement are expected to amplify this relationship. Thus, evidence from literatures are presented in Table 1.

Table 1: Systematic Review Evidence

S/N	Author(s) & Year	Focus	Methodology	Major Findings	Research Gap
1	Oduro & Agbevade (2026)	E-governance and accountability in Ghana	Empirical (survey & regression)	E-governance improves transparency significantly; accountability	Limited integration of institutional moderating factors

				depends on institutional strength	
2	Sharmin & Chowdhury (2025)	Digital transformation and governance	Quantitative analysis	Positive effect on transparency and administrative efficiency	Weak linkage between transparency and accountability
3	Udoh (2024)	E-governance performance in developing countries	Mixed-method (PhD thesis)	Performance varies across institutional contexts	Lack of unified theoretical framework
4	Munir et al. (2024)	Citizen participation in e-governance	Systematic review	Participation enhances accountability	Insufficient empirical testing of participation effects
5	Tasleem (2025)	E-governance in public services	Systematic review	Improves service delivery and transparency	Limited focus on accountability outcomes
6	Antoni et al. (2024)	E-government and accountability	Systematic review	ICT enhances accountability via monitoring systems	Absence of integrative model
7	Shenkoya (2023)	Digital governance in Nigeria	Empirical	Transparency improved, accountability, weak	Institutional weakness not fully modeled
8	Amalia (2023)	Public sector accountability practices	Review	Accounting systems improve transparency	Weak integration with digital governance
9	Bertot et al. (2010)	ICT and transparency	Conceptual/ empirical	ICT promotes transparency and reduces corruption	Limited discussion of enforcement mechanisms
10	Fox (2015)	Social accountability	Conceptual	Transparency does not guarantee accountability	Lack of digital governance perspective
11	Heeks (2020)	Digital governance and corruption	Analytical	Digital tools reduce corruption risks	Context-specific limitations not explored
12	Meijer et al. (2012)	Open government	Conceptual	Transparency enhances governance openness	Weak causal link to accountability
13	Taiwo (2025)	E-governance and budget transparency	Empirical	ICT improves fiscal transparency	Accountability effects not fully captured
14	Banerjee et al. (2020)	E-governance and public finance	Experimental	Reduces leakage, improves accountability	Limited generalizability across regions
15	Pina et al. (2007)	ICT and accountability (OECD)	Comparative analysis	ICT enhances accountability in developed countries	Applicability to developing countries unclear
16	Zuiderwijk et al. (2019)	Open data barriers	Empirical	Data fragmentation limits transparency effectiveness	Limited focus on accountability

17	Detthamrong et al. (2025)	Evolution of e-governance research	Bibliometric analysis	Shift toward AI and digital ecosystems	Lack of governance outcome focus
18	Temba (2025)	E-governance in Tanzania	Case study	Improves efficiency and transparency	Weak accountability measurement
19	Utile & Agbanyi (2025)	Accountability in Nigeria	Empirical	Positive relationship with e-governance	Institutional moderation not tested
20	Anikeze et al. (2026)	Financial transparency in Nigeria	Empirical	Digital tools improve financial transparency	Limited theoretical grounding
21	Pribadi et al. (2024)	integrated public organization, transparency, and accountability theories to assess digital government service implementation in Indonesia	Empirical SEM-PLS	employees shows that employee skills, leadership, regulation, infrastructure, ICT, transparency, and accountability support implementation	Limited analysis on mediation and moderation
22	Al-Shbail & Aman (2018)	E-government and accountability dysfunctions	Qualitative case study (Jordan Customs)	Identifies three critical dimensions (technological, environmental, organizational) that mitigate accountability disorders; emphasizes system integration, participation, and strategic planning	Lack of quantitative validation and limited cross-country generalizability
23	Isah et al. (2024)	E-governance and service delivery (Nigeria)	Mixed-method	E-governance improves efficiency in payment systems but not uniformly across services; success depends on institutional readiness and stakeholder engagement	Limited linkage to transparency–accountability nexus
24	Balakumaran & Ramamoo	E-governance in local institutions (India)	Conceptual/ analytical	Weak performance of local governance attributed to bureaucratic rigidity;	Lack of empirical validation of proposed system

	rthy (2013)			proposes interactive e-governance systems as solution	
25	Hartanto et al. (2021)	E-governance and public trust (Indonesia)	Quantitative (SEM-PLS)	Transparency, accountability, and responsiveness significantly enhance public trust; e-governance effectiveness acts as mediator	Limited exploration of institutional moderators
26	Kannapadang et al. (2025)	E-government optimization	Quantitative (SEM-PLS)	Strong positive impact on both transparency and accountability; highlights role of infrastructure, interoperability, and digital competence	Context-specific findings (Indonesia)
27	Mohammed & Haruna (2020)	E-governance and public accountability (Nigeria)	Survey/descriptive (SPSS)	ICT adoption significantly improves revenue accountability and reduces corruption; strong link between e-governance and financial transparency	

Source: Author

6. CONCLUSION AND POLICY IMPLICATIONS

6.1 Conclusion

This study set out to systematically examine the role of e-governance in enhancing accountability and transparency within public sector institutions. Drawing on a comprehensive synthesis of empirical and theoretical literature across multiple regions, the study reveals that e-governance has fundamentally transformed the mechanisms through which governments interact with citizens and manage public resources. Digital platforms have significantly improved transparency by facilitating access to information, while also strengthening accountability through enhanced monitoring, traceability and auditability.

However, the findings also demonstrate that the relationship between transparency and accountability is neither automatic nor linear. Transparency alone does not guarantee accountability. Rather, its effectiveness depends on the presence of strong institutional frameworks, enforcement mechanisms and active citizen engagement. This accounts for the persistent gap evident in many developing contexts, where digital transparency initiatives exist alongside weak accountability outcomes.

Moreover, empirical evidence from developing contexts reveals that while digital platforms

significantly improve transparency and efficiency, their impact on accountability remains uneven. This underscores the critical role of institutional readiness, stakeholder engagement and governance capacity in translating digital transparency into meaningful accountability outcomes. In addition, accountability failures often arise from institutional disorder (Al-Shbail & Aman, 2018), weak implementation capacity (Isa et al., 2024) and bureaucratic rigidity (Balakumaran & Ramamoorthy, 2013)

To bridge this gap, the study developed DAT model, which integrates e-governance, transparency, accountability, institutional capacity and governance outcomes. The model advances the understanding of governance as a dynamic and interactive system rather than a static administrative structure.

6.2 Policy Implications

The findings of this study carry several important implications for policymakers, particularly in developing economies.

First, governments must prioritize investment in digital infrastructure to support the effective implementation of e-governance systems. Without reliable ICT systems, transparency and accountability initiatives cannot be sustained. Second, policymakers should focus on strengthening institutional capacity, including legal frameworks, administrative competence and enforcement mechanisms. Digital tools alone are insufficient without strong governance structures. Third, there is a need to promote inclusive digital access to address the digital divide. Ensuring equitable access to digital platforms will enhance citizen participation and improve accountability outcomes.

Fourth, governments should adopt integrated data governance frameworks that ensure data quality, security and interoperability. This will enhance trust and facilitate effective monitoring, as well as, evaluation. Finally, fostering citizen engagement through participatory platforms and feedback mechanisms is critical. Active citizen involvement transforms transparency into actionable accountability.

6.3 Contributions to Knowledge

This study makes several contributions to the existing literature. The study;

i. provides a systematic synthesis of global evidence on e-governance, accountability and transparency comprising Africa, Asia and Europe.

ii. identifies equilibrium point where digital governance systems equal openness and answerability.

iii. develops and identifies the conceptual dispersion between key constructs and establishes their novel theoretical framework (DAT) model that integrates multiple dimensions of governance.

iv. advances a new philosophical perspective on accountability in the digital era.

v. offers policy-relevant insights for improving governance outcomes in both developed and developing contexts.

6.4 Philosophical Contribution

The central idea of this study lies in its reconceptualisation of accountability within the digital age. Traditionally, accountability was perceived as a retrospective mechanism focused on compliance and sanction after governance failures occur. This study challenges that notion by proposing that:

Digital governance does not inherently create accountability; rather, it reorganizes the architecture of governance in ways that make accountability possible, contingent and continuously negotiated through data, institutions and citizen interaction. Thus, accountability in digital governance is a proactive, continuous and data-driven process embedded within real-time transparency systems.

Simply, this wisdom shifts the paradigm from reactive accountability to proactive accountability; static transparency to interactive transparency and hierarchical governance to networked digital governance. Effective e-governance requires technological readiness, institutional alignment and citizen engagement

7. Future Research Directions

While this study provides a comprehensive review, several areas warrant further investigation. Future research should focus on empirical validation of the DAT framework using quantitative methods such as structural equation modeling (SEM) or panel data analysis. This will help establish the robustness of the proposed relationships. There is also a need for cross-country comparative studies to examine how contextual factors such as political systems, institutional quality and cultural dynamics influence the effectiveness of e-governance.

Also, emerging technologies such as big data analytics, blockchain and artificial intelligence, create new opportunities and challenges for governance. Future studies should explore how these technologies reshape accountability and transparency mechanisms. Finally, more research is needed on digital inclusion and equity, particularly in developing countries, to ensure that e-governance benefits are broadly shared across different segments of society.

Disclosure of Conflict of Interest

There is no conflict with any individual, corporate issues about this paper to declare

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