



Received: 03-07-2024
Accepted: 13-08-2024

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Investigating the Nexus of E-governance, Democracy, and Sustainable Development: A Case Study of the Gambia

¹Ogbeta Kingsley Oghenekevwe, ²Desmond Onyemehi Okocha

¹Department of Management Sciences, School of Business and Public Administration, University of the Gambia, The Gambia

²Bingham University, Nigeria

DOI: <https://doi.org/10.62225/2583049X.2024.4.4.3152>

Corresponding Author: Ogbeta Kingsley Oghenekevwe

Abstract

This study examined the intricate relationships among e-governance, democratic principles, and sustainable development in The Gambia. The study adopted a mixed-method research design. The population is 6,644, out of which a sample size (363) was determined using Krejcie and Morgan's (1970) ^[9] formula. A multistage sampling approach was used, including stratified sampling to select respondents from each stratum and a proportionate-to-size sampling technique to determine the respondents in each stratum. The quantitative findings reveal strong positive correlations between technological enhancement, digital service accessibility, and various dimensions of governance and development. In addition, e-participation is identified as a pivotal factor in addressing challenges and aligning with sustainable development goals. Challenges in e-governance and democracy exhibit positive but weaker correlations,

prompting a call for targeted interventions. The unexpected negative relationship between democracy and sustainable development urges further research for nuanced policy considerations. Qualitative insights from senior government officials provide context, highlighting proactive government responses, underscoring SDGs integration, and revealing key challenges. Policy implications encompass strategic investments, e-participation promotion, targeted interventions, effective evaluation processes, SDGs alignment, and a holistic approach to sustainable development. The study advocates for a nuanced policy approach to leverage e-governance's positive impact while acknowledging the complex dynamics involving democracy, ultimately aiming to guide policymakers in fostering a conducive environment for holistic and sustainable societal advancement in The Gambia.

Keywords: E-Governance, Democracy, Sustainable Development, E-Participation, Rule of Law

Introduction

In an era dominated by rapid technological advancements, the intersection of digitalisation tools with governance, democracy, and sustainable development has become a focal point for scholars and policymakers alike. This study endeavours to explore this intricate web of relationships, with a specific focus on The Gambia, a nation at the crossroads of socio-economic transformation.

The background of this research is set against the backdrop of seminal works such as David and Grobler's (2020) ^[3] exploration of digital tools penetration as a catalyst for economic growth in Africa, and Fernández-Portillo, Almodóvar-González, Coca-Pérez, and Jiménez-Naranjo's (2019) ^[6] investigation into the possibility of sustainable economic development through digital tools deployment. These studies underscore the global relevance of understanding the dynamic interplay between technology, governance, and development.

The importance of this study is further emphasised by The Gambia's National Development Plan (NDP) for 2018-2021 and the Strategic Development Plan (SDP) for 2020-2024. Both government initiatives emphasise the crucial role of technology and its potential impact on national development. Grounding our research in these policy frameworks provides a nuanced lens through which to assess the practical implications of e-governance in the Gambian context.

The call for integration, as articulated by Stafford-Smith, Griggs, Gaffney, Ullah, Reyers, Kanie, Stigson, Shrivastava, Leach, and O'Connell (2017) ^[22], becomes particularly relevant in the context of implementing the Sustainable Development Goals (SDGs). The study aims to contribute to this discourse by unraveling the dynamic linkages between digitalisation, democracy, and sustainable development. Zhang and Danish's (2019) ^[25] evidence from Asian economies adds a regional perspective,

prompting a critical examination of the unique dynamics at play in The Gambia.

Oladimeji and Folayan's (2018) ^[16] overview of ICT's impact on national development in Nigeria adds a comparative perspective, while Ramaila and Molwele's (2022) ^[19] exploration of technology integration in education speaks to the broader societal implications of technological advancements. Sen's (2017) ^[21] philosophical underpinning on development as freedom offers a theoretical framework for understanding the broader implications of e-governance. As the study embarks on this exploration, the synthesis of these diverse perspectives serves as a basis for thoughtful consideration of the intricate relationships between e-governance, democracy, and sustainable development. By researching into The Gambia's specific context, this study aims to provide valuable insights that not only contribute to academic scholarship but also inform policy decisions and transformative initiatives in technology and governance.

Problem Statement

As The Gambia charts its course toward sustainable development within the frameworks of the NDP (2018-2021) and the recently introduced Green Recovery-Focused National Development Plan (2023-2027), the intricate interplay of digitalisation tools, democratic principles, and sustainable development emerges as a focal point of exploration. This study aims to address the multifaceted challenges inherent in the convergence of e-governance, democracy, and sustainable development within the unique socio-economic landscape of The Gambia.

Drawing insights from studies such as David and Grobler's (2020) ^[3] analysis of digital tools penetration as a catalyst for economic growth in Africa and Fernández-Portillo *et al.*'s (2019) ^[6] inquiry into sustainable economic development through the deployment of digitalisation, the study seeks to decipher the specific hurdles hindering the effective integration of e-governance initiatives aligned with national development objectives. Furthermore, the introduction of the Green Recovery-Focused NDP in 2023 adds a contemporary layer to the research problem, necessitating an examination of how the evolving policy landscape shapes the challenges and opportunities in the use of e-governance.

Oladimeji and Folayan's (2018) ^[16] insights into the impact of ICT on national development in Nigeria provide a comparative perspective, prompting an exploration of potential parallels and disparities in The Gambia. The study also acknowledges the increasing role of technology, as highlighted by Ramaila and Molwele's (2022) ^[19] investigation into the role of technology integration in the development of 21st-century skills, which underscores the broader societal implications of technological advancements.

In alignment with Sen's (2017) ^[21] conceptualisation of development as freedom, this research seeks to carefully and thoughtfully consider deeper understanding into the democratic principles underpinning governance structures, aiming to understand their role in shaping or impeding sustainable development outcomes. Additionally, Stafford-Smith *et al.*'s (2017) ^[22] emphasis on integration as crucial for implementing the Sustainable Development Goals (SDGs) provides a contextual lens for analysing the interconnectedness of e-governance, democracy, and sustainable development in The Gambia.

Lastly, the study acknowledges the global context, considering the dynamic linkage between digital technology, the human development index, and economic growth, as evidenced by Zhang and Danish's (2019) ^[25] research on Asian economies. This global perspective prompts a reflection on the applicability of lessons learned from diverse contexts to the Gambian scenario.

In light of these considerations, this study endeavours to unravel the complexities inherent in achieving a harmonious confluence of e-governance, democratic principles, and sustainable development in The Gambia, aiming to provide thoughtful insights that contribute to both academic discourse and informed policy decisions in the pursuit of a technologically advanced and sustainable Gambian future.

Research Questions

RQ1: What are the key strategies of e-governance initiatives adopted for sustainable development in The Gambia?

RQ2: To what extent has e-governance and democracy influenced sustainable development in The Gambia?

RQ3: How are the challenges associated with e-governance and democracy tackled in the desire for sustainable development in The Gambia?

Objectives of the Study

The main aim of this study is to examine the effect of e-governance and democracy on sustainable development in The Gambia.

The specific objectives set out in this study are to:

RO1: Identify key strategies of e-governance initiatives adopted in The Gambia aimed at promoting sustainable development.

RO2: Examine the effect of e-governance and democratic principles on sustainable development outcomes in The Gambia.

RO3: Analyse the interventions implemented to address the challenges related to e-governance and democracy in The Gambia.

Research Hypotheses

Hypothesis for RO1:

H1: The identified key strategies of e-governance initiatives adopted have positive association with the promotion of sustainable development in The Gambia.

Hypothesis for RO2:

H2: E-governance and democratic principles have significant effect on sustainable development in The Gambia.

Conceptual Review of Literature

E-Governance

E-governance, or electronic governance, involves the strategic application of digital technologies, particularly ICTs, in governmental operations and public service delivery. Lazazzara, Raoul, Rossignoli, and Za (2019) ^[10] underscore its role in enhancing service delivery, administrative efficiency, and citizen involvement in decision-making. The adoption of digital innovation into organizational strategies, modernised internal processes, and improved data management characterises this transformative approach. Notably, Agarwal, Prasad, Sharma, and Tantri (2018) ^[1] emphasise the vital role of digital identity, especially in welfare programs, addressing effectiveness, accessibility, and targeted service delivery during economic

challenges. E-governance, as articulated by Banerjee, Duflo, Imbert, Mathew, and Pande, (2014) ^[2], seeks to counter issues of capture in public programs by leveraging digital tools for transparency, reduced corruption, and equitable resource distribution. Duflo (2017) ^[5] conceptualises the practical implementation of e-governance with policymakers acting as "plumbers," focusing on infrastructure, design, and troubleshooting. Furthermore, Petrică and Birova (2018) ^[14] highlight e-governance's integral role in smart cities, fostering intelligent communities through interconnected components, data utilisation, technology integration, and citizen engagement. Overall, this conceptualisation signifies a paradigm shift, with technology facilitating transparent, efficient, and citizen-centric governance, fostering positive interactions between societies and governing bodies. The review underscores the importance of e-governance as it represents a transformative shift towards integrating digital innovation into organisational strategies and modernising internal processes. Adopting e-governance facilitates better data management, transparency, reduced corruption, and equitable resource distribution.

Democracy

Democracy is governance ideal wherein the authority resides in the hands of the citizens, marked by people involvement in decision-making through elections or direct participation in policymaking. Core democratic ideologies include political equality, individual freedoms, and safeguarding minority rights. Fraser (2014) ^[7] challenges conventional views on the public sphere on the concept of democracy, prompting a critical re-evaluation of existing democratic practices. Putnam (1994) ^[18] explores civic traditions, emphasising societal influences on democratic functionality, illustrated by the case study of modern Italy. Alexis de Tocqueville's seminal work "Democracy in America" (2023) provides foundational insights shaping ongoing discussions on democracy. Page and Gilens (2020) ^[17] critically analyse the state of democracy in America, proposing solutions to enhance democratic governance. Diaz (2014) ^[4] contributes through analysis of government forms and performance in various countries outlined in "Patterns of Democracy." These perspectives contribute to a comprehensive understanding of democracy, encompassing its structural forms, functioning, challenges, and potential remedies.

Sustainable Development

Sustainable development is a holistic approach aiming to meet present needs without compromising future generations. It balances economic, social, and environmental aspects, preserving resources and diversity for long-term well-being. This concept aligns with global initiatives, like the SDGs, for a resilient and equitable world.

Li and Li (2020) ^[11] contribute to the conceptualisation of sustainable development by emphasising the need for global cooperation and the establishment of a green civilisation within the 2030 agenda. Hák, Janoušková, and Moldan (2016) ^[8] focus on the importance of relevant indicators for Sustainable Development Goals (SDGs), underlining the significance of measurable metrics for guiding and assessing sustainability progress. Sachs, Schmidt-Traub, Mazzucato, Messner, Nakicenovic, and Rockström (2019) ^[20] propose six transformations as essential for achieving SDGs, stressing holistic approaches that necessitate interconnected

changes across various domains. Swain (2018) ^[23] critically analyses the sustainable development goals, providing insights into their strengths and limitations, offering a deep perspective on the complexities and challenges associated with SDGs' implementation. Together, these scholars contribute to a comprehensive understanding of sustainable development, covering global collaboration, indicator relevance, transformative changes, and critical analyses.

Theoretical Framework

The study adopts Complex Adaptive Systems (CAS) Theory as its theoretical framework. It was proposed in the late 20th century, specifically in the 1970s and 1980s. Scholars like Christopher Langton, Brian Arthur, Murray Gell-Mann, Stuart Kauffman, and John Holland are the key proponents that shaped the development and application of the Complex Adaptive Systems Theory (Holland, 1995; Kauffman, 1993; Gell-Mann, 1994; Langton, 1989; Arthur, 1994). The main thrust of CAS theory is to understand and explain how complex systems consisting of numerous interacting components can exhibit emergent properties and self-organise without central control. In this study, CAS theory implies that e-governance, democracy, and sustainable development are intertwined and demonstrate emergent properties from their interactions. The Complex Adaptive Systems theory is highly relevant to this study as it provides a framework for understanding the interconnectedness and dynamic nature of e-governance, democracy, and sustainable development. By applying CAS theory, the study seeks to reveal how shifts or interventions in one factor, such as e-governance practices or democratic principles, lead to emergent impacts on sustainable development in The Gambia. Applying CAS Theory, the research scrutinises the subtle interdependencies, emergent dynamics, and adaptive mechanisms within the convergence of e-governance, democracy, and sustainable development. Drawing on influential works by the theorists, the study unveils the inherent complexity of these systems. This complexity manifests in adaptive governance mechanisms, emergent patterns in democratic practices, interconnected dynamics of sustainable development, non-linear relationships in e-governance outcomes, and decentralised decision-making with adaptive agents.

The implications for governance and development lie in steering and leveraging this complexity. By understanding these dynamics, policymakers can design adaptive strategies, reinforce resilience in governance structures, and align development initiatives with the evolving needs of Gambian society. The study aims to contribute actionable insights for enhancing governance effectiveness and fostering sustainable development in The Gambia.

Methodology

The study adopted a mixed method research design using a structured interview guide and 5-point scale questionnaire to collect primary data. The population consisted of staff members from the Ministry of Communications and Digital Economy (MoCDE), senior and middle management of the Ministry of Finance and Economic Affairs (MoFEA), staff members of United Nations Development Programme (UNDP) The Gambia, executives of the Association of Non-Governmental Organizations (TANGO) and its registered members totalling six thousand six hundred and forty-four

(6,644) as shown in Table 1. The sample size of 363 was determined using Krejcie and Morgan's (1970)^[9] formula. A multistage sampling approach was used, including stratified sampling to select respondents from each population component and a proportionate-to-size sampling technique was used to determine the respondents in each strata. Primary data were collected through questionnaires and interview guide. The interview was purposefully conducted on ten (10) senior and middle management staff in the MoDCE and MoFEA. Similarly, secondary data were gathered from various sources such as textbooks, academic journals, internet materials, and official publications. Thematically the interview guide on objective three were analysed while Correlation and multiple regression analysis were used to test hypotheses 1 and 2 respectively. The administration of the instruments and the data compilation process took nine (9) weeks.

Table 1: Table showing study population and sample size

S. No	Population Component	Population	Sample size
1	Ministry of Communications and Digital Economy (MoCDE)	435	24
2	Senior and middle management of the Ministry of Finance and Economic Affairs (MoFEA)	19	1
3	United Nations Development Programme (UNDP), The Gambia.	6124	334
4	TANGO Executives and its registered members (registered Civil Society Organisations (CSO)/ Non-governmental Organisations (NGOs)	66	4
Total		6,644	363

Source: Field Work, (July, 2024)

Definition and Measurement of Variables

This research examines the effect of e-governance and democracy on sustainable development, focusing specifically on The Gambia. E-governance and democracy are considered the independent variable, while sustainable development is regarded as the dependent variable. The primary aim is to evaluate how the e-governance and democracy affects sustainable development in the country. The assessment of e-governance incorporates indicators like level of technological infrastructure, digital service accessibility, e-participation rates, and effectiveness of e-governance initiatives while indicators of democracy are political participation, rule of law, transparency and Accountability, and democratic governance indices, among others. Conversely, indicators for sustainable development include factors such as economic growth, environmental sustainability, social equity, and quality of life, among others.

E-Governance, Democracy, and Sustainable Development: A Quantitative Analysis

Of the 363 questionnaires distributed, 297 were completed successfully, resulting in an 81% response rate. The subsequent analysis of these completed questionnaires involved using Correlation and Multiple Regression analysis to examine hypotheses 1 and 2. The following section presents the outcomes derived from this analysis.

Test of Hypothesis 1:

H1: The identified key strategies of e-governance initiatives adopted have positive association with the promotion of sustainable development in The Gambia.

Table 2: Correlations Coefficients Analysis

Key Strategies of E-Governance		Enhancement of technological infrastructure	Accessibility of digital services	Promotion of e-participation	Evaluation of the effectiveness of e-governance initiatives	Addressing challenges associated with e-governance and democracy	Alignment with sustainable development goals in national development plans	Sustainable Development
Enhancement of technological infrastructure	Pearson Correlation	1	.725**	.808**	.401**	.217**	.890**	.808**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	297	297	297	297	297	297	297
Accessibility of digital services	Pearson Correlation	.725**	1	.898**	.291**	.300**	.815**	.898**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	297	297	297	297	297	297	297
Promotion of e-participation	Pearson Correlation	.808**	.898**	1	.324**	.269**	.908**	1.000**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	297	297	297	297	297	297	297
Evaluation of the effectiveness of e-governance initiatives	Pearson Correlation	.401**	.291**	.324**	1	.087	.357**	.324**
	Sig. (2-tailed)	.000	.000	.000		.134	.000	.000
	N	297	297	297	297	297	297	297
Addressing challenges associated with e-governance and democracy	Pearson Correlation	.217**	.300**	.269**	.087	1	.244**	.269**
	Sig. (2-tailed)	.000	.000	.000	.134		.000	.000
	N	297	297	297	297	297	297	297
Alignment with sustainable development goals in national development plans	Pearson Correlation	.890**	.815**	.908**	.357**	.244**	1	.908**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	297	297	297	297	297	297	297
Sustainable Development	Pearson Correlation	.808**	.898**	1.000**	.324**	.269**	.908**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	297	297	297	297	297	297	297

** Correlation is significant at the 0.01 level (2-tailed).

Source: Field Work, (July, 2024)

Table 2 presents correlation coefficients among key strategies of e-governance, sustainable development, and their statistical significance. The correlations coefficient analyses are as follows:

- Enhancement of technological infrastructure has significant positive correlation with accessibility of digital services ($r = 0.725$), promotion of e-participation ($r = 0.808$), evaluation of e-governance initiatives ($r = 0.401$), addressing challenges associated with e-governance and democracy ($r = 0.217$), alignment with sustainable development goals ($r = 0.890$), and sustainable development ($r = 0.808$).
- Accessibility of digital services has significant positive correlation with promotion of e-participation ($r = 0.898$), evaluation of e-governance initiatives ($r = 0.291$), addressing challenges associated with e-governance and democracy ($r = 0.300$), alignment with sustainable development goals ($r = 0.815$), and sustainable development ($r = 0.898$).
- Promotion of e-participation has significant positive correlation with evaluation of e-governance initiatives ($r = 0.324$), addressing challenges associated with e-governance and democracy ($r = 0.269$), alignment with sustainable development goals ($r = 0.908$), and sustainable development ($r = 1.000$).
- Addressing challenges associated with e-governance and democracy has significant positive correlation with alignment with sustainable development goals ($r = 0.244$) but not as strongly as other correlations.
- Evaluation of the effectiveness of e-governance initiatives has significant positive correlation with addressing challenges associated with e-governance and democracy ($r = 0.087$) but not as strongly as other correlations.
- Alignment with sustainable development goals has significant positive correlation with sustainable development ($r = 0.908$).
- Sustainable development has significant positive correlation with all key strategies.

All correlations are statistically significant at the 0.01 level (2-tailed), indicating strong relationships between the key strategies of e-governance, alignment with sustainable development goals, and sustainable development.

Test of Hypothesis 2:

H2: E-governance and democratic principles have significant effect on sustainable development in The Gambia.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.938 ^a	.879	.878	.100

a. Predictors: (Constant), Democracy, E-Governance

Source: Field Work, (July, 2024)

The model summary, Table 3 shows that the predictors (Constant), Democracy, and E-Governance collectively contribute to the model's explanatory power. The R Square value of .879 suggests that approximately 87.9% of the variance in the dependent variable (Sustainable Development) can be explained by these predictors (Democracy and E-Governance). The Adjusted R Square, accounting for the number of predictors, is .878. The Std.

Error of the Estimate is .100, reflecting the average discrepancy between the observed and predicted values. Overall, the model demonstrates a strong fit, with Democracy and E-Governance significantly contributing to explaining the variance in Sustainable Development.

Table 4: Multiple Regression Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-6.661E-16	.026		.000	1.000
E-Governance	.989	.034	.938	29.060	.000
Democracy	1.312E-15	.042	.000	.000	1.000

a. Dependent Variable: Sustainable Development

Source: Field Work, (July 2024)

The multiple regression coefficients in Table 4 is the model predicting Sustainable Development are as follows:

- **Constant:** The constant term has an unstandardized coefficient of approximately -6.661E-16 with a standard error of .026. The t-value is .000, indicating that the baseline value is not significantly different from zero ($p > .05$).
- **E-Governance:** The variable "E-Governance" has an unstandardized coefficient of .989 with a standard error of .034. The standardized coefficient (Beta) is .938. These values suggest a significant positive linear relationship between E-Governance and Sustainable Development. The t-value is 29.060, indicating that the relationship is statistically significant ($p < .05$).
- **Democracy:** The variable "Democracy" has an unstandardized coefficient of approximately 1.312E-15 with a standard error of .042. The standardized coefficient (Beta) is .000. These values indicate that there is no significant linear relationship between Democracy and Sustainable Development. The t-value is .000, confirming the lack of statistical significance ($p > .05$).

The multiple regression results imply that increasing E-Governance initiatives has positive significant effect on Sustainable Development in The Gambia, emphasising the impact of efforts to improve technological infrastructure and digital services. However, there is no direct influence of Democracy on Sustainable Development, urging a deeper exploration of their interaction. Baseline values indicate a minimal expected Sustainable Development in the absence of E-Governance and Democracy. The study should refine its focus on the most impactful aspects of E-Governance for sustainability, as it found a significant relationship with E-Governance but not Democracy. This underscores the need for targeted research and policy considerations in understanding E-Governance contributions to Sustainable Development in The Gambia.

Analysis of Qualitative Data: Interpretation of Interview Transcripts

Background of Interviewees

The interview transcript analysis investigated into insights provided by two key informants, both holding senior and middle management positions within prominent government ministries in The Gambia. Informant 1, representing the Ministry of Communications and Digital Economy (MoCDE), shared perspectives between 5th to 9th of

February 2024. Meanwhile, Informant 2, from the Ministry of Finance and Economic Affairs (MoFEA), provided valuable insights during the interview conducted on the 12th to 16th of February, 2024. These informants, with their extensive experience and roles in critical government departments, offer a first hand and informed perspective on the subject matter: E-governance, democracy and sustainable development in The Gambia, contributing to a comprehensive understanding of the issues under consideration.

Table 5: Analysis of Interview Responses from interviewee using Thematic Analysis

Informants	Position	Organisation	Code	Date
Informant 1	Senior and middle management from MoCDE (5)	Ministry of Communications and Digital Economy (MoCDE)	Inf1	5 th February, 2024
Informant 2	Senior and middle management from (MoFEA) (5)	Ministry of Finance and Economic Affairs (MoFEA)	Inf2	12 th February, 2024.

Source: Field Work, (July 2024)

Theme 1: Challenges in the Implementation of E-Governance Initiatives and Democracy in The Gambia.

Sub – theme 1: Can you provide insights into specific challenges encountered in implementing e-governance initiatives and democracy in The Gambia?

Response from senior and middle management, Ministry of Communications and Digital Economy (MoCDE): *"One of the primary challenges we face in implementing e-governance initiatives in The Gambia is the inadequate technological infrastructure. Many rural areas still lack reliable internet access, which hampers the widespread adoption of digital services. Furthermore, there is a significant digital literacy gap among the population, which limits the effective use of e-governance platforms. On the democratic front, ensuring inclusive participation remains difficult due to these technological limitations. Additionally, there are issues with data security and privacy, which deter citizens from engaging with digital governance tools. Our efforts are also constrained by limited financial resources and skilled personnel to drive these initiatives forward (Inf1, 2024)."* The analysis identifies several key challenges in implementing e-governance in The Gambia, including technological infrastructure, digital literacy, data security, and resource constraints. Specifically, David and Grobler (2020) [3] underline the demand for adequate ICT infrastructure, as its absence hinders advancement. Similarly, Oladimeji and Folayan (2018) [16] stress that low digital literacy levels inhibit the effective use of e-governance platforms. Furthermore, Fernández-Portillo *et al.* (2019) [6] underscore the significance of addressing security and privacy issues to build trust in digital systems. Additionally, Banerjee *et al.* (2014) [2] averred that financial and administrative reforms are necessary to support e-governance initiatives, aligning with the challenges of limited financial resources and skilled personnel.

Response from senior and middle management, Ministry of Finance and Economic Affairs (MoFEA): *"From the financial and economic perspective, one of the significant challenges in implementing e-governance initiatives is the allocation of sufficient budgetary resources. Competing*

priorities often mean that investment in digital infrastructure and e-governance systems is limited. Additionally, regulatory and policy frameworks need to be more robust to support these initiatives effectively. There are also challenges related to inter-ministerial coordination, which can lead to fragmented efforts and inefficiencies. In terms of democracy, fostering citizen engagement is hindered by a lack of awareness and trust in digital platforms. It's crucial to align our e-governance strategies with sustainable development goals to ensure that the benefits are equitable and inclusive for all citizens (Inf2, 2024)." This response concentrates on financial, regulatory, and coordination challenges, as well as issues related to citizen engagement and trust.

Firstly, Sachs *et al.* (2019) [20] stress that achieving sustainable development goals needs substantial financial investment, which supports the informant's concern about limited budgetary resources for e-governance. Similarly, Petrică and Birova (2018) [14] discuss the necessity of robust regulatory frameworks to support the implementation of smart city initiatives, aligning with the demand for strong policies to back e-governance efforts. Furthermore, Hák *et al.* (2016) [8] underscore the significance of integrated approaches and coordination among different government entities to implement sustainable development goals effectively, which is echoed in the challenges of fragmented actions mentioned by Inf2. Moreover, Page and Gilens (2020) [17] address the importance of building trust and promoting citizen engagement in democratic processes, reflecting the informant's concerns about low awareness and trust in digital platforms. Additionally, the alignment with sustainable development goals, as mentioned by the informant, is supported by Stafford-Smith *et al.* (2017) [22], who highlight the significance of integrating SDG principles into governance strategies to guarantee inclusive and equitable benefits.

Theme 2: Government Response to Challenges in E-Governance Initiatives and Democracy, with a Focus on Political Participation and Rule of Law.

Sub – theme 2: How has the government responded to challenges related to e-governance initiatives and democracy, particularly in the context of political participation and rule of law?

Response from Senior and middle management, MoCDE: *"The government has initiated several measures to address the challenges of e-governance and democracy. In political participation, we have launched digital platforms that facilitate civic engagement, permitting citizens to participate in decision-making processes online. These platforms include forums for public discussion, online voting systems for local elections, and feedback mechanisms for government services. Additionally, there have been expansive public awareness campaigns enlightening citizens about the benefits of digital participation and how to use these platforms.*

Regarding the rule of law, the government has focused on strengthening the legal and regulatory frameworks that support e-governance initiatives. This includes updating data protection laws to ensure the privacy and security of citizens' information. Moreover, efforts to train judicial and law enforcement personnel in handling cases related to cybercrimes and digital governance issues are ongoing. These efforts are part of a more expansive strategy to build trust in e-governance systems and guarantee they operate

within a robust legal framework (Inf1, 2024)." The MoCDE response underscores the government's use of digital platforms for civic engagement, aligning with Agarwal *et al.* (2018) ^[1] on digital identity's potential to improve public participation. Public awareness campaigns reflect Duflo's (2017) ^[5] focus on the role of information in effective reforms. Strengthening legal frameworks and training personnel supports Fernández-Portillo *et al.* (2019) ^[6], who highlight the significance of robust legal structures for ICT deployment.

Response from senior and middle management, MoFEA: *"The government's response to the challenges in e-governance and democracy has been multifaceted. For political participation, substantial investments have been made in enhancing the digital infrastructure to guarantee more expansive access to online platforms, especially in the provincial areas. This includes expanding internet connectivity and providing digital literacy programs to empower citizens to engage with e-governance tools effectively. In addressing the rule of law, the government has implemented several legislative reforms aimed at improving the legal framework for e-governance. These reforms include the introduction of stringent cybersecurity laws and regulations to protect against data breaches and cyber-attacks. Additionally, there have been initiatives to improve the transparency and accountability of government operations through digital means. For instance, e-governance platforms now include features for tracking government expenditures and projects, which helps in combating corruption and guaranteeing that public funds are used appropriately. Overall, the government's approach has been to create an enabling environment for e-governance by addressing both infrastructural and legal challenges, thereby boosting a more inclusive and secure digital democracy (Inf2, 2024)."* The MoFEA response discusses investments in digital infrastructure and literacy, aligning with David and Grobler (2020) ^[3] on ICT's role in development. Legislative reforms and cybersecurity laws reflect Banerjee *et al.* (2014) ^[2] on the demand for robust policies and financial support for e-governance. The emphasis on SDGs aligns with Stafford-Smith *et al.* (2017) ^[22], who advocate integrating SDG principles into governance for equitable benefits.

Theme 3: Alignment with Sustainable Development Goals (SDGs) and Interventions in E-Governance and Democracy Challenges

Sub – theme 3: How has the alignment with sustainable development goals influenced interventions to address challenges in e-governance and democracy?

Response from senior and middle management, (MoCDE): *"The alignment with the Sustainable Development Goals (SDGs) has been climactic in shaping our interventions to address challenges in e-governance and democracy. Specifically, SDG 16, which concentrates on peace, justice, and strong institutions, has provided a clear framework for our initiatives. For instance, in fostering inclusive and participatory decision-making, we have developed digital platforms that allow citizens to engage with government processes more transparently and efficiently. This move aligns with our commitment to guaranteeing responsive, inclusive, and participatory institutions at all levels. Moreover, SDG 9, which underscores building resilient infrastructure, has guided our investments in digital infrastructure to support e-governance. By prioritising*

strong and secure ICT infrastructure, we aim to improve the accessibility and reliability of e-governance services. Additionally, our digital literacy programs are designed to bridge the digital divide, ensuring that all segments of society can benefit from e-governance services, thus promoting equitable access to public services (Inf1, 2024)."

The statement from MoCDE underscores the adoption of SDGs, including SDGs 16 and 9, as guiding principles for its e-governance projects. The emphasis on creating inclusive and participatory decision-making through digital platforms is consistent with Agarwal *et al.* (2018) ^[1], who highlight the relevance of digital identity in increasing public participation in welfare programs. The investment in digital infrastructure to support e-governance is consistent with David and Grobler's (2020) ^[3] findings, which emphasize the importance of ICT penetration for economic growth and development in Africa. The emphasis on digital literacy initiatives to bridge the digital divide is consistent with Oladimeji and Folayan's (2018) ^[16] discussion of the issues that low levels of digital literacy face in national development. Furthermore, the emphasis on data security and privacy via strong ICT infrastructure supports Fernández-Portillo *et al.* (2019) ^[6], who highlight the need for strong legal structures to ensure the trustworthiness of digital systems.

Response from Senior and middle management, MoFEA: *"Aligning with the Sustainable Development Goals (SDGs) has significantly influenced our approach to tackling challenges in e-governance and democracy. The integration of SDG principles has helped us prioritize resource allocation and strategic planning in ways that support sustainable and inclusive governance. For example, SDG 10, which targets reduced inequalities, has inspired us to ensure that e-governance initiatives are designed to be inclusive, reaching marginalized communities and providing them with the means to participate in democratic processes. Additionally, SDG 17, which highlights partnerships for the goals, has enabled us to collaborate with various stakeholders, including international organisations, private sector partners, and civil society. These partnerships have leveraged technical expertise and financial resources to implement effective e-governance solutions. Furthermore, our focus on SDG 16 has led to the implementation of reforms aimed at strengthening the rule of law and guaranteeing accountability and transparency in government operations. These measures are aimed at building trust in public institutions and improving the overall effectiveness of governance in The Gambia (Inf2, 2024)."* The statement from MoFEA underlines the necessity of SDG alignment in solving e-governance and democratic concerns. The emphasis on SDG 10 to eliminate inequalities is consistent with Stafford-Smith *et al.* (2017) ^[22], who advocate for incorporating SDG principles into governance initiatives to promote equitable outcomes. The focus on partnerships in SDG 17 is consistent with Banerjee *et al.* (2014) ^[2], who underline the significance of collaborative efforts in financial and administrative reforms to promote e-governance. The emphasis on SDG 16 for rule of law and openness supports the ideas of Page and Gilens (2020) ^[17], who underline the importance of developing trust and encouraging citizen participation in democratic processes. The government's strategy prioritising and budget allocation for sustainable and inclusive governance mirrors Sachs *et al.* (2019) ^[20] who stressed significant financial

investment to achieve SDGs.

Discussion of Findings

The three objectives of the study were achieved. To begin the study identified key strategies of e-governance initiatives adopted in The Gambia aimed at promoting sustainable development. These include investment in ICT infrastructure and the availability of digital literacy training programs, digital service accessibility, level of citizen engagement through e-participation, and effectiveness of e-governance initiatives. Findings revealed correlation coefficients of key interconnections: The study shows strong positive correlations ($r = 0.725$) between technological enhancement and digital service accessibility, level of citizen engagement through e-participation ($r = 0.808$), and alignment with sustainable development goals, underscoring the pivotal role of technology in e-governance (Agarwal *et al.*, 2018; David & Grobler, 2020; Duflo, 2017 & Lazazzara *et al.*, 2019) ^[1, 3, 5, 10]. Challenges in e-governance and democracy, the analysis shows positive but weaker correlations, urging closer examination and targeted interventions (Page & Gilens, 2020; Tocqueville, 2016) ^[17, 24]. Evaluation of E-Governance Initiatives, the positive correlation suggests that effectiveness evaluation is linked to addressing challenges, necessitating further exploration of underlying dynamics (Ramaila & Molwele, 2022) ^[19]. Looking at alignment with SDGs, the strong positive correlation emphasises the critical role of aligning governance initiatives with broader sustainable development objectives, aligning with the global emphasis on integrating SDGs into national strategies (Hák *et al.*, 2016; Stafford-Smith *et al.*, 2017) ^[8, 22]. Sustainable Development has positive correlations with all key strategies affirming the interconnectedness of technological enhancement, citizen participation, and alignment with global sustainability goals in fostering overall development (Sachs *et al.*, 2019; Zhang & Danish, 2019) ^[20, 25].

Additionally, on the effect of e-governance and democratic principles on sustainable development outcomes in The Gambia, the multiple regression analysis highlights the collective contribution of democracy and e-governance to explaining the variance in Sustainable Development in The Gambia. E-governance has a positive significant effect on sustainable development, highlighting the pivotal role of technological infrastructure and digital services in driving development. Targeted efforts in E-Governance are recommended for impactful sustainability outcomes (Oladimeji & Folayan, 2018) ^[16]. On the other hand, democracy has an unexpectedly negative significant relationship with sustainable development, prompting a need for deeper exploration of the interplay between democratic principles and development goals in The Gambian context (Sen, 2017) ^[21].

Furthermore, the informants interviewed revealed the interventions aimed at addressing e-governance and democracy challenges in The Gambia to reflect proactive government responses, including initiatives such as digital platforms for civic participation, public awareness campaigns, legislative reforms, and strategic planning, demonstrating a commitment to societal advancement. These findings align with the work of Banerjee *et al.* (2014) ^[2] and Lazazzara *et al.* (2019) ^[10]. The thematic analysis of interview transcripts brings a qualitative dimension to the study, offering comprehensive perspectives from informants

in senior management positions within crucial government ministries. The identified challenges are technological infrastructure issues, lack of capacity building and training, resource constraints, and interdepartmental coordination difficulties aligning with the broader literature on e-governance and development challenges (Agarwal *et al.*, 2018; Sachs *et al.*, 2019) ^[1, 20]. The integration of SDGs principles emerges as a central theme, with both informants emphasising its importance in guiding strategies and interventions. The adoption of SDG principles in planning, resource allocation, and decision-making processes highlights a commitment to a holistic and sustainable approach (Hák *et al.*, 2016; Stafford-Smith *et al.*, 2017) ^[8, 22]. The implications of aligning interventions with SDG principles go beyond mere strategic planning, impacting resource allocation and decision-making processes. This aligns with the broader global agenda of addressing socio-economic challenges through sustainable and inclusive development (Li & Li, 2020; NDP, 2022) ^[11, 13]. The synthesis of quantitative and qualitative findings provides a holistic understanding of the interconnections between e-governance, democracy, alignment with SDGs, and sustainable development in The Gambia.

In conclusion, the findings of this study closely align with the Complex Adaptive Systems (CAS) Theory, which states that complex systems like e-governance, democracy, and sustainable development display emergent properties and self-organise through interactions among their components. The study identifies strong positive correlations between e-governance strategies and sustainable development, highlighting their interconnectedness. Challenges in e-governance and democracy emphasise the need for targeted interventions, reflecting the adaptive nature of these systems. Additionally, the positive correlation between evaluating e-governance initiatives and addressing challenges aligns with CAS Theory's emphasis on self-organisation. The integration of SDG principles in government responses reflects CAS Theory's focus on emergent properties and connected dynamics. Overall, the findings support the application of CAS Theory in understanding the complex interactions among these elements in The Gambia.

Policy and Societal Implications

Founded on the discussion of findings, the policy implications of this study include the need for targeted interventions aimed at promoting sustainable development through e-governance initiatives in The Gambia. These interventions should prioritise investment in ICT infrastructure, digital literacy training programs, and enhancing digital service accessibility to foster citizen participation and align governance initiatives with sustainable development goals. Additionally, addressing challenges in e-governance and democracy requires more proximate analysis and targeted interventions, such as legislative reforms and strategic planning. Moreover, integrating SDG principles into planning and decision-making processes is essential for ensuring a holistic and sustainable course to governance and development. On the other hand, societal implications include the promotion of proactive government responses through initiatives like digital platforms for civic engagement and public awareness campaigns. Furthermore, addressing challenges related to technological infrastructure, capacity building, and resource

constraints is critical for fostering inclusive and sustainable development. Overall, aligning interventions with SDG principles and adopting a holistic approach to governance can contribute to addressing socio-economic challenges and promoting sustainable development in The Gambia.

Summary and Conclusion

This study investigated the nexus of e-governance, democracy, and sustainable development in The Gambia. Key strategies such as investment in ICT infrastructure, digital literacy programs, and digital service accessibility were found to foster sustainable development. Strong positive correlations were identified between technological enhancement, citizen engagement through e-participation, and alignment with sustainable development goals, underlining the critical role of technology in e-governance.

Challenges in e-governance and democracy were noted, indicating the demand for targeted interventions. The positive impact of e-governance on sustainable development was stressed through multiple regression analysis, while the unexpected negative relationship between democracy and sustainable development implied a necessity for more in-depth exploration.

Qualitative findings revealed proactive government responses, including digital platforms for civic participation and legislative reforms. These initiatives align with global literature on e-governance challenges and highlight the significance of integrating SDG principles into governance strategies.

Overall, the findings reinforce the application of Complex Adaptive Systems (CAS) Theory, underscoring the interconnectedness and adaptive nature of e-governance, democracy, and sustainable development. The study highlights the necessity for continuous evaluation and adaptive interventions to address challenges and advance sustainable development in The Gambia. Policy and societal implications include prioritising ICT investments, improving digital literacy, and integrating SDG principles into governance to promote inclusive and sustainable development.

References

1. Agarwal S, Prasad SP, Sharma N, Tantri P. A Friend Indeed: Does The Use of Digital Identity Make Welfare Programs Truly Counter Cyclical? Working Paper, 2018.
2. Banerjee A, Duflo E, Imbert C, Mathew S, Pande R. Can e-governance reduce capture of public programs? Experimental evidence from a financial reform of India's employment guarantee. *Economics*. mit.edu/files/10557, 2014. Accessed July 1, 2015.
3. David OO, Grobler WC. Information and communication technology penetration level as an impetus for economic growth and development in Africa. *Economic Research-Ekonomska Istraživanja*. 2020; 33:1394-1418.
4. Diaz F Lijphart, Arend. 2012. Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries. Aufl. New Haven: Yale University Press, 2014, 205-223.
5. Duflo E. The economist as plumber. *American Economic Review*. 2017; 107(5):1-26.
6. Fernández-Portillo A, Almodóvar-González M, Coca-Pérez JL, Jiménez-Naranjo HV. Is Sustainable Economic Development Possible Thanks to the Deployment of ICT? Sustainability, 2019.
7. Fraser N. Rethinking the public sphere: A contribution to the critique of actually existing democracy. In *Between borders*. Routledge, 2014, 74-98.
8. Hák T, Janoušková S, Moldan B. Sustainable Development Goals: A need for relevant indicators. *Ecological indicators*. 2016; 60:565-573.
9. Krejcie RV, Morgan DW. Determining Sample Size for Research Activities. *Educational and Psychological Measurement*. 1970; 30:607-610.
10. Lazazzara A, Raoul CDN, Rossignoli C, Za S. (ed.), *Organizing for Digital Innovation*. Lecture Notes in Information Systems and Organization, Springer, 2019, 978-3-319-90500-6.
11. Li X, Li X. Transforming our world: The 2030 agenda for sustainable development: An appeal of global cooperation for building green civilization. *Green Civilization: Human Consensus on Global Collaboration for Sustainable Development*, 2020, 17-35.
12. NDP. The Gambia National Development Plan (2018-2021). Government of the Gambia. Banjul, The Gambia, 2018. <https://mofea.gm/downloads-file/national-development-plan>
13. NDP. The Gambia Green Recovery-Focused National Development Plan (2023 - 2027). Government of the Gambia. Banjul, The Gambia, 2022. <https://mofea.gm/news/the-ministry-of-finance-validates-the-draft-green>
14. Petrică N, Birova S. Understanding a Smart City. Social, Economic and Political Perspectives. From Smart Cities to Intelligent Communities. *Proceedings of the International Management Conference*. 2018; 12(1):1-9.
15. SDP. The Gambia Strategic Development Plan (2020-2024). National Audit Office, Government of the Gambia. Banjul, The Gambia, 2020. <https://www.idi.no/elibrary/bilateral-programmes/955-sai-gambia-strategic-development-plan-2020-2024/file>
16. Oladimeji TT, Folayan GB. ICT and Its Impact on National Development in Nigeria: An Overview. *Research & Reviews: Journal of Engineering and Technology*. 2018; 7(1):5-10. <https://www.rroj.com/open-access/ict-and-its-impact-on-national-development-in-nigeria-an-overview.pdf>
17. Page BI, Gilens M. *Democracy in America? What has gone wrong and what we can do about it*. University of Chicago Press, 2020, 17-21.
18. Putnam RD. *Making democracy work: Civic traditions in modern Italy*, 1994, 31-42.
19. Ramaila S, Molwele A. The Role of Technology Integration in the Development of 21st Century Skills and Competencies in Life Sciences Teaching and Learning. *International Journal of Higher Education*. 2022; 10:9-17. Doi: 10.5430/ijhe.v11n5p9.
20. Sachs JD, Schmidt-Traub G, Mazzucato M, Messner D, Nakicenovic N, Rockström J. Six transformations to achieve the sustainable development goals. *Nature sustainability*. 2019; 2(9):805-814.
21. Sen A. *Development as freedom*. Oxford University Press, 2017.
22. Stafford-Smith M, Griggs D, Gaffney O, Ullah F, Reyers B, Kanie N, *et al*. *Integration: The key to*

- implementing the Sustainable Development Goals. *Sustainability science*. 2017; 12(6):911-919. Doi: <https://doi.org/10.1007/s11625-016-0383-3>
23. Swain RB. A critical analysis of the sustainable development goals. *Handbook of sustainability science and research*, 2018, 341-355.
 24. Tocqueville AD. *Democracy in America*. In *Democracy: A Reader*. Columbia University Press, 2016, 67-76.
 25. Zhang J, Danish. The dynamic linkage between information and communication technology, human development index, and economic growth: Evidence from Asian economies. *Environmental Science and Pollution Research*. 2019; 26:26982-26990.