Improving E-Government Services Implementation in Nigeria: An Organisational Development Perspective

by

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DEDICATION

This thesis is dedicated to my lovely wife and beautiful children. You are the most important part of me in this world. Your prayers, support and constant ‘disturbances’ are appreciated. Many times, when I felt like giving up, thoughts of all of you kept me keenly focused. Thank you!

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DECLARATION

I declare that the thesis “Improving E-Government Services Implementation in Nigeria: An Organisational Development Perspective” is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references. I further declare that I submitted the thesis/dissertation to originality checking software and that it falls within the accepted requirements for originality. I further declare that I have not previously submitted this work, or part of it, for examination at UNISA for another qualification or at any other higher education institution.

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ABSTRACT

E-government services are gaining grounds in Nigeria and this is attributable to the liberation of the telecommunications sector which enabled internet network coverage and subscriptions. Despite these achievements, there are still organisational development challenges impacting the implementation of e-Government services in Nigeria. The purpose of this study was to investigate the organisational challenges that impact the successful implementation of e-Government services in Nigeria looking through the lens of the Nigeria e-Government Master Plan and the e-Government Capacity Building Programme.

To accomplish this, a qualitative research approach was adopted, based on the social – technological theoretical framework. The socio-technical systems design (STS) have been applied in various literature that relate to e-Government. Both primary and secondary data were collected in this study. Primary data were gathered through interviews and focus group discussions from public servants at the Nigerian Federal Ministry of Communications, Innovations and Digital Economy. Secondary data were gathered through a review of literature on e-Government initiatives and this included relevant textbooks, journals, published thesis and other internet materials. The qualitative data gathered in this study were analysed using thematic analysis and document analysis.

The study recognised the need to improve e-Government implementation in Nigeria from a public policy driven organisational development approach to solving the problems confronting the Federal Ministry of Communication, Innovation and Digital Economy as it charts the course for other Ministries, Departments and Agencies to facilitate ICT as a key tool in the economic growth of Nigeria and transformation agenda for the entire country.

From the analysis and findings, it is apparent that improving Nigeria's e-government services depends on a systematic strategy that involves the need to understand issues impacting e-government services, processes relating to the implementation of e-government services, some of the socio-technical concerns that must be addressed for the implementation of e-government services in Nigeria and how an organisational development framework can improve e-government services in Nigeria

Key words: E-Government, organisational development, FMCIDE, E-Government

DERIVED PUBLICATIONS

1. An Empirical Investigation of Organizational Challenges Impacting E-Government Implementation in Nigeria

2. E-Government in Nigeria and the National E-Government Master Plan

3. Exploring the Implementation of E-Government Services in Nigeria

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LIST OF ABBREVIATIONS

AISA:	African Information Society Initiative
AU:	African Union (formerly Organisation of African Unity, OAU)
EDMS:	Electronic Document Management System
EGDI:	E-Government Development Index
FMCIDE:	Federal Ministry of Communications, Innovations and Digital Economy
G2B:	Government-to-Business
G2C:	Government-to-Citizen
G2E:	Government-to-Employee
G2G:	Government-to-Government
ICT:	Information and Communication Technology
MDAs:	Ministries, Departments, and Agencies
MIT:	Massachusetts Institute of Technology
NITDA:	National Information Technology Development Agency
NNIT	Nigerian National Information Technology
NPM:	New Public Management
OAU:	Organisation of African Unity (now African Union, AU)
OD:	Organisational Development
OECD:	Organisation for Economic Co-operation and Development
PADIS:	Pan African Development System
SDGs:	Sustainable Development Goals
STS:	Socio-Technical Systems (Theory)
UN:	United Nations
UNDESA:	United Nations Department of Economic and Social Affairs
UNECA:	United Nations Economic Commission for Africa
UNESCO:	United Nations Educational, Scientific and Cultural Organization

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Though it is well known that ICT (i.e. information and communication technology) has been used to improve the efficiency and the effectiveness in various governmental sectors around the world and that electronic governance has facilitated and streamlined societal development, public service delivery, and the business aspects of government (Umar, Ikechukwu, & Shaka, 2022), there is still a need to create an organisational system to constantly optimise the implementation of these services to keep up with public demands. Countries around the world have initiated various innovations and initiatives in an effort to revitalise their public administration. One such initiative is the use of Information Communications Technologies (ICT) in the public sector as a tool to deliver services in a more efficient and effective way (UN, 2008).

ICT is also widely used by governments around the world to fine-tune and update their enterprise-wide processes, even as the advantages of utilising ICT have resulted in their widespread application in both public and private sectors. The phrase "electronic government" or "e-government" was coined because of the use of technology to reform governance as well as to offer services to and enhance relationships with stakeholders and beneficiaries (OECD, 2003; Grönlund & Horan, 2004). As e-government developed over time, there are numerous distinct definitions of electronic government that have been made public (OECD, 2003; Grönlund, 2010). For instance, the Organisation for Economic Co-operation and Development (OECD) has numerous slightly varied definitions of what electronic government is.

According to the Organisation for Economic Co-operation and Development (OECD, 2003), e-government refers to the application of ICT with a particular emphasis on the internet, as a

means to enhance government operations and services. Also, according to the United Nations, e-Government refers to the utilisation of information technology in the realm of public administration with the aim of enhancing and consolidating workflows and processes, governing data and information, enhancing the provision of public services, and expanding communication channels to actively involve and empower individuals. (United Nations, 2014).

Information systems serve as the backbone of today's business transactions. From the retail and service sectors to production and manufacturing, the role of ICT in supporting these processes have steadily increased since Tim Berners-Lee created the world's first web browser in 1990 (Beauchamp, 2023). However, the beginning of the internet service provision at that period was an innovation. The concept quickly extended to developing and underdeveloped nations. In developing nations, it is hard to pinpoint the exact beginning of electronic government, but in Africa, it may be traced back to 1996, when African leaders agreed to the African Information Society Initiative (AISA) (Hafkin, 2009). Nigeria is one of the developing nations that has begun embracing ICTs for modernisation and economic growth. Their use in Nigeria has evolved in situations, in addition to the progress made by institutions, where they have been adopted, (Kimenyi & Moyo, 2011).

In either a developed or developing society, the deployment of ICTs in the form of E-Government systems is now unavoidable. Today, it is obvious that all 193 United Nations member states have an internet presence (United Nations, 2018). Countries all over the world have directed their attention to e-government due to its benefits such as effectively optimising the utilisation of resources, particularly among the public sector employees, leading to the precise and timely completion of transactions as well as alleviating the hardships experienced by citizens residing in different regions and urban centres across their countries (Ndou, 2004). According to a comparative study on -government between developed and developing countries, developing countries, unlike the developed countries, are still responding to the

underlying requirements of E-government by having to first overcome infrastructural, cultural, technical, access and ICT literacy challenges that have already been mastered by the developed countries (Nawafleh, Obiedat, & Harfoushi, 2012).

The term 'implementation' can be understood in several distinct but interrelated ways. The Merriam-Webster dictionary defined implementation as ‘an act or instance of implementing something: the process of making something active or effective’. E-government in this research is the governments' use of ICT combined with organisational change to improve its structures and operations (Field, Muller, Lau, Gadriot-Renard, & Vergez, 2003) In low-income nations, the nature of e-government uses for the achievement of genuine advantages remains a tough task (Joshi & Islam, 2018).

The E-government Index

The United Nations Department of Economic and Social Affairs (UNDESA) has been publishing biennially the E-Government Development Index (EGDI) and survey report since 2001. Over the past ten editions, it has established itself as both a leading benchmarking reference on e-government, and a policy tool for decision makers. The survey is the only global report that assesses the e-government development status of all United Nations Member States. The e-government index presents a more inclusive and less subjective measure of a country’s e-government environment. It incorporates a country’s official online presence, evaluates its telecommunications infrastructure and assesses its human development capacity. (UN e-government Knowledge Base, 2024). The assessment measures e-government performance of countries relative to one another, as opposed to being an absolute measurement. It recognises that each country should decide upon the level and extent of its e-government initiatives in keeping with its own national development priorities and achieving the Sustainable Development Goals.

S/N	Region	2024 EGDI Average
1	World	0.6382
2	Africa	0.4247
3	Europe	0.8493
4	Asia	0.6990
5	Americas	0.6701
6	Oceania	0.5289

Table 1.1 Global and regional EGDI averages (Source: UN E-Government Development Index 2024 report of the United Nations' Department of Economic and Social Affairs- UNDESA)

As per the findings of UNDESA (i.e. the United Nations' Department of Economic and Social Affairs), Africa lags behind other regions of the world in the development and implementation of e-government. It scores 0.42 (on a scale of 0 to 1), compared to the worldwide average of 0.64, and over fifty percent of the continent's countries offer an average of 12 government services electronically. There are only five countries, namely Nigeria, Rwanda, Angola, Egypt, and South Africa that deliver between 20 and 21 government services to the public electronically (Ernst & Young, 2022). The reason for this poor performance cannot be attributed to a lack of political will alone but also to economic, social, and other issues including organisational challenges.

Undoubtedly, e-Government serves as a valuable tool for effectively managing the various activities within the global public sector. The implementation of this technology has significantly expedited the provision of public goods in developed countries. In numerous countries worldwide, there is a growing recognition of the need to enhance the public sector by leveraging emerging technologies to improve its effectiveness, efficiency, and citizen-centricity. This entails utilising emerging technologies in order to facilitate the prompt delivery of vital services to the general population. Hence, it has been recognised that the utilisation of ICT can serve as a potent instrument for facilitating the government's process of reinvention in

a more expeditious, cost-effective, and efficient manner (Omeire & Omeire, 2014). The concept of e-Government involves the utilisation of technological advancements to enhance the provision of public sector services, with the ultimate goals of promoting accountability, openness, promptness, and efficiency (Azeez, Abidoye, Adesina, Agbele & Venter, 2012). Governments worldwide are increasingly adopting and implementing ICT as a public service. This shift is driven by the recognition that ICT can serve as a valuable tool for enabling public sector organisations to transition from being internally focused on administrative tasks to becoming externally focused on delivering services to the public. (OECD, 2003).

The deployment of Information and Communication Technology (ICT) to support e-government initiatives in Nigeria is targeted at improving public service delivery. From the early 2000s, Nigeria has introduced integrated payroll systems and government websites to facilitate citizen access to information and streamline bureaucratic processes (Ayesha et al., 2025). These deployments has been constrained by substantial infrastructural deficiencies including a consistent lack of reliable power and reliable internet coverage and connectivity, particularly outside major the cities and urban areas (Ayesha et al., 2025). This digital dichotomy between the urban and underserved rural areas continues to worsen uneven access to e-government services (Paul & Eghe, 2023).

The development of e-government services has remained problematic in many developing countries including in Nigeria and this cannot be ascribed only to limited resources related issues but also to other factors including the lack of appropriate models to guide the implementation of e-government services in developing countries (Joshi & Islam, 2018) Considerable research has been conducted in the domain of e-government. However, the lack of e-government research on organisational challenges has been pointed out by Khan et al.'s (2011) in the context of developing countries. This research looked into how the delivery of e-government services can be improved in Nigeria from an organisational development point of

view. Moreover, this study was qualitative in nature and relied on the use of a case study strategy. The Federal Government of Nigeria currently implements seven e-government initiatives (i.e. National E-Government Master Plan, Government Service Portal, Government Contact Centre, Open Data Portal, Electronic Document Management System, E-Government Capacity Building Programme, and the National E-Health Strategic Framework). However, only the National E-Government Master Plan and E-Government Capacity Building Programme will be the focus of this research.

1.2 Statement of Problem

To expedite the development of their country's e-government systems, developing nations are grappling with deploying the same ICTs as developed nations (Khan et al., 2011). In this race, which is frequently referred to as a "leapfrog" (Kimenyi & Moyo, 2011), ICT professionals and policy decision-makers in these developing nations frequently draw ideas and inspiration from e-government research and benchmarks in developed nations. However, developed nations have utilised ICTs to construct their institutions from the outset under favourable conditions. This act of "leapfrogging" by developing nations in that they adopt readymade technology from developed nations is a step in the right direction for developing nations (Kimenyi & Moyo, 2011). In contrast, institutional frameworks ingrained in these industrialised nations foster an environment conducive to the enhanced implementation of e-government services which are difficult to recreate in a developing nation. The current study focuses specifically on the Nigerian public sector context, examining ICT deployment within the Federal Ministry of Communication, Innovation and Digital Economy to understand challenges and implementation dynamics.

Over time, it has been observed that poorer nations have a greater proportion of failures in e-government initiative implementation (Heeks, 2003a; Dada, 2006; Gunawong & Gao, 2017). These failures can be linked to the political, socioeconomic, technological, and organisational

challenges that are common those environments (Weerakkody, Dwivedi, & Kurunananda, 2009; Nkohkwo & Islam, 2013). The lack of attention to organisational aspects of ICT is a major explanatory factor (with regard to the high levels of systems failure) and is manifest in poor management generally, poor project management, poor articulation of user requirements, inadequate attention to business needs and goals, and a failure to involve users appropriately (Doherty & King, 2005).

Kamar and Ongo'ndo (2007) highlighted a set of criteria that serve as impediments to the successful deployment of E-Government in developing nations. Their prevailing unwillingness to disseminate information, leads to the implementation of rules that restrict access to information and the establishment of government ministry websites that lack substantial and meaningful content. This study delimits its scope to the evaluation of the e-government initiatives within Nigeria, excluding private sector ICT initiatives.

Organisational issues in the adoption of E-Government which reflects the lack of coordination in E-Government activities can be attributed to the inadequate management of E-Government services within public administration, as well as the poor quality and quantity of E-Content information at the grassroots level.

The limited level of information technology knowledge within the nation will hinder the efficiency of E-Government initiatives. The impact of the unequal distribution of internet facilities is further compounded by the high cost of connection. Even when there is high-speed internet connectivity, penetration still remains low. The disparity is observed between many societal groups, such as the economically advantaged and disadvantaged in urban areas, the residents of rural and urban regions, and those with varying levels of proficiency in information technology. This phenomenon is also evident in the linguistic style employed for delivering website material, which is comprehensible only to a select group of individuals possessing specialised knowledge (i.e. the Digital Divide).

The rate at which E-Government is being introduced is impeded by financial constraints and mixed government policies, resulting in inadequate allocation of financial resources. The lack of alignment between the existing and prospective systems, arises from significant disparities in physical, social, cultural, economic, and other contextual factors between the software designers and the implementation site. Considering these findings, the developing countries risk failing to fully benefit from the use of ICTs or even failing if decision-makers and experts are not motivated by scholarly literature to consider local factors, such as social and organisational challenges. Methods for implementing e-government may be universal, whereas solutions to problems are context-specific. Avoiding the implementation of outdated systems that are expensive to sustain and restore would allow the majority of African countries to make more efficient use of their limited resources (Joshi & Islam, 2018). Furthermore, these findings suggest that in sub-Saharan Africa, improved transactional services would necessitate a stronger integration of e-government technologies within government institutions. During the implementation phase, such an integration necessitates several operational reforms and structural modifications within public agencies, i.e., a type of organisational modification to avoid wasting resources in the period following application (Wimmer 2002; Hughes, Scott, & Golden, 2006; Kennedy, Coughlan, & Kelleher, 2010). Despite this, e-government services present developing countries with a significant chance to improve both the quality of their governance and the degree of happiness experienced by their citizens. However, for governments to make the most of the potential offered by these technologies, they will need to be able to adapt to several specific circumstances and successfully navigate several associated concerns, difficulties, and obstacles (Ndou & Valentina, 2004). For the purposes of this research, the focus will remain on the Nigerian Federal Ministry of Communication, Innovation and Digital Economy, assessing e-government initiatives and organizational challenges, while excluding broader cross-country comparisons.

1.3 Research Objectives

The main aim of the study is to explore the organisational development challenges of improving the implementation of E-government services in Nigeria. It attempts to answer the main research question:

"How can E-Government services be improved from an organisational development perspective in Nigeria?"

The aim of this study is guided by the following objectives:

a) To determine the organisational development issues impacting e-government services in Nigeria.
b) To explore processes related to the implementation of e-government services in Nigeria.
c) To assess the socio-technical concerns in the implementation of e-government services in Nigeria.
d) To identify an organisational development framework for improving the process of implementing e-government services in Nigeria.

1.4 Research Questions

This research study would address the following questions:

a) What are the organisational development issues impacting E-Government services in Nigeria?
b) What are the processes related to the implementation of E-Government services in Nigeria?
c) What is the sociotechnical concern that must be addressed for the implementation of E-Government services in Nigeria?
d) How can an organisational development framework improve E-Government services in Nigeria?

1.5 Significance of the Study

This study is significant in that it identifies the key factors that can improve the implementation of E-Government services in Nigeria with regards to the Federal Ministry of Communication, Innovation and Digital Economy (FMCIDE). It also identifies the gap in knowledge of solving organisational development problems of E-Government implementation in the context of Nigeria's expanding e-government aspirations. The study further proposes a framework that will help solve organisational development problems facing E-Government in Nigeria. The findings and conclusions of this study will prove useful for government policy-makers, particularly those working in E-government policy design, implementation and post implementation evaluation. It will be a useful document to guide them towards improving the rating of Nigeria globally in the E-Government Development Index (EGDI) which is currently 0.4815. While Nigeria's rating is higher than the regional average of 0.4247, it is ranked behind the sub-regional leader, Ghana (0.6217), and the regional leader, South Africa at EGDI 0.8616 (UN e-Government Knowledge Base, 2024).

1.6 Contribution to the Body of Knowledge

As a result of the findings of this study and the organisational development framework proposed, policy makers in Nigeria will have a formalised approach to managing organisational problems affecting E-government implementation in Nigeria even as the National Digital Economy and E-Governance Bill (draft) developed and sent to Parliament in July 2024 is undergoing deliberations. This study will also help developers of E-Government services and initiatives to recognise and resolve social and technological challenges arising from E-government services, thereby making innovative contributions within the context of Nigeria's E-Government implementation. Moreover, it will also help policy-makers in the sub-region, region and globally to identify and proffer solutions to the challenges impacting the implementation of E-Government services in their respective countries.

1.7 Research Scope

This research examines the implementation of e-government services at the Federal Ministry of Communication, Innovation and Digital Economy (FMCIDE) in the Federal Capital Territory, Abuja, Nigeria. The FMCIDE was created in 2011 as the Ministry of Communication Technology to foster a knowledge-based economy and information society in Nigeria. The Ministry promotes and facilitates the use of ICT as a key tool in the transformation agenda for Nigeria in the areas of job creation, economic growth and transparency of governance. One of the principles guiding the implementation of e-government in Nigeria is that the primary goal of e-government lies in transformation and social change rather than IT Initiatives. Therefore, more attention is to be paid to organisational changes rather than application developments or technicalities. In this study, e-government service implementation was examined from the standpoint of organisational development using the socio-technical theory. In addition, rather than serving as a methodological framework for design, the socio-technical theory was employed more as a theoretical framework for investigating phenomena. The study assessed the National E-Government Master Plan and E-Government Capacity Building Programme.

1.8 Structure of the Thesis

This thesis consists of eight chapters as detailed below:

Chapter One: Introduction

This chapter reveals the intention behind the research. It conveys the motivation of the researcher and contains the questions, purpose, and objectives for the research. Furthermore, it includes the significance and contribution of this study.

Chapter Two: Literature Review

This chapter contains available literature relevant to the research topic. This chapter investigates the existing literature on e-government systems and organisational development. It also offers

a philosophical elucidation of the various roles that government assumes as a guardian of both the public and the private sectors. This chapter also examines and deliberates upon the meaning, notion, and typologies of e-government through the identification and investigation of diverse categories of e-government services, namely G2G (government-to-government), G2B (government-to-business), G2E (government-to-employee), and G2C (government-to-citizen). Moreover, the chapter identifies the principles guiding e-government implementation in Nigeria. This chapter discusses the E-Government initiatives of the Nigerian Federal Government and their organisational challenges.

Chapter Three: Theoretical Framework

This chapter provides an analysis and discussion of the socio-technological systems theory employed in the present study. This chapter additionally examines e-government services from the standpoint of this theoretical framework. It culminates by integrating the perspectives of e-government implementation and organisational development, thereby presenting a proposed framework for enhancing it.

Chapter Four: Methodology

This chapter discusses the study's assumptions, research strategy, and design. It also covers the research methodology adopted philosophical assumptions, research approach and strategy, research design, data collection techniques, data analysis and data quality control for the investigation of the research data that are presented.

Chapter Five: Data Presentation

This chapter presents the study findings based on the analysis of the qualitative data obtained and interprets the data. It analyses these outcomes from the theoretical framework viewpoint, considering the information detailed in Chapter Three.

Chapter Six: Discussion of Findings

This chapter analyses the research findings in detail and summarises the empirical findings for easy perusal. Then it discusses the consolidated research findings as they relate to the research questions and is backed up with relevant data.

Chapter Seven: Conclusions

This is the concluding chapter, and it presents the summary of the study as well as the major findings in the study. In addition, contributions of the research work to academic knowledge and the limitations experienced during the study are elucidated. It also suggests recommendations for future research based on the findings made.

1.9 Chapter Summary

This chapter presented the background to the study on improving the implementation of E-Government Services in Nigeria from the perspective of organisational development in the FMCIDE. The chapter delineated the problem statement and articulated the research questions, aims, and objectives that the study intends to solve. This chapter also addresses the significance and contribution of the study.

Chapter two presents a review of existing literature relevant to the electronic government implementation and organisational development.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

E-government is a generic term for web-based services from agencies of local, state and federal governments. In e-government, the government uses information technology and particularly the internet to support government operations, engage citizens, and provide government services. The interaction may be in the form of obtaining information, filings, or making payments and a host of other activities via the World Wide Web (Sharma & Gupta, 2003; Sharma, 2006). According to the World Bank in Liywalii, and Tembo (2019), e-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that can transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management.

The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions. The United Nations further defined it as utilising the internet and the world-wide-web for delivering government information and services to citizens. The Global Business Dialogue on Electronic Commerce defined it as a situation in which administrative, legislative and judicial agencies (including both central and local governments) digitise their internal and external operations and utilise networked systems efficiently to realise better quality in the provision of public services. Also, the Gartner Group refers to it as the continuous optimisation of service delivery, constituency participation, and

governance by transforming internal and external relationships through technology, the internet and the new media.

2.1.1 Definitions of E-government

According to the Working Group on E-government in the developing world, e-government is the use of ICT to promote more efficient and effective government, facilitate more accessible government services, allow greater public access to information, and make government more accountable to citizens (Palvia & Sharma 2007). E-government might involve delivering services via the Internet, telephone, community centres (self-service or facilitated by others), wireless devices or other communication systems. While definitions of e-government by different sources may vary widely, there is a common theme. E-government involves using information technology, and especially the internet, to improve the delivery of government services to citizens, businesses, and other government agencies.

E-government enables citizens to interact and receive services from the federal, state or local governments twenty-four hours a day, seven days a week. E-government is in the early stages of development. Most governments have already taken or are taking initiatives offering government services online. However, for the true potential of e-government to be realised, the government needs to restructure and transform its long-entrenched business processes. According to Gartner, e-government involves the use of ICTs to support government operations and provide government services (Fraga, 2002). However, e-government goes even further and aims to fundamentally transform the production processes in which public services are generated and delivered, thereby transforming the entire range of relationships of public bodies with citizens, businesses and other governments (Leitner, 2003).

E-Governance (which means ‘electronic governance’) is the use of ICTs at various levels of the government and the public sector and beyond, to enhance governance (Bedi, Singh &

Srivastava, 2001; Holmes, 2001; Okot-Uma, 2000). According Keohane and Nye, 2000, p. 202):

> Governance implies the processes and institutions, both formal and informal, that guide and restrain the collective activities of a group. Government is the subset that acts with authority and creates formal obligations. Governance need not necessarily be conducted exclusively by governments. Private firms, associations of firms, nongovernmental organisations (NGOs), and associations of NGOs all engage in it, often in association with governmental bodies, to create governance; sometimes without governmental authority.

E-governance is not limited to the public sector. It implies managing and administering policies and procedures in the private sector as well (Ananth, 2019, p. 3) The UNESCO defines it as:

> …the public sector's use of information and communication technologies to improve information and service delivery, encouraging citizen participation in the decision-making process and making government more accountable, transparent and effective. E-governance involves new styles of leadership, new ways of debating and deciding policy and investment, new ways of accessing education, new ways of listening to citizens and new ways of organising and delivering information and services. E-governance is generally considered a wider concept than e-government, since it can bring about a change in the way citizens relate to governments and to each other. E-governance can bring forth new concepts of citizenship, both in terms of citizen needs and responsibilities. Its objective is to engage, enable and empower the citizen.

“E-democracy builds on e-governance and focuses on the actions and innovations enabled by ICTs combined with higher levels of democratic motivation and intent” (Clift, 2003). According to Kettl, 2002, p.12) "Governance is a way of describing the links between government and its broader environment - political, social, and administrative." This use of an electronic medium helps the interactions between the government and the members of the public, whether individual citizens or businesses, to enhance governance and business.

2.1.2 The Digital Economy

The digital economy is a global concept that uses internet services to challenge conventional ideas of how businesses and commerce are organised. According to Brenner (2015), the assertive use of data for commercial endeavours serves to advance the digital economy. It entails applying data to change business models, make new products possible, provide services, and increase usefulness by implementing creative management techniques for economic transformation. Chohan (2020) posits that the notion of the digital economy emerged from innovations and recent technological advancements, as well as the digitalisation and transformation of regular human interactions aimed at enhancing global corporate activity.

This indicates that the digital economy is based on businesses having access to the internet and has grown to be the mainstay of global investment and trade. Several attempts have been made to categorise the extent of the impact on traditional industries using a digital economy platform. The electronic distribution of items to clients is a concept associated with e-commerce. As a result, it is considered the economic sector that deals with intangible goods in the digital sphere at no additional expense. Furthermore, Chohan (2020) asserts that the digital economy emphasises the methods of conducting business and procedures, since it enables billions of individuals to connect via the internet, gadgets, data, and processes. It is predicated on the interrelation of individuals, organisations, and machines, aiming to facilitate cashless

transactions in economic contexts, and has significantly influenced worldwide retail sales of consumer products.

The proliferation of technologies across all business sectors has led to an increasing productivity in the global economy. According to experts, the term "digital economy" refers to a system of commerce and economic activity based on digital computer technology made possible by an internet connection. Because of the everyday activities of people, organisations, and countries, it is also regarded as an online economy that is entwined with the traditional economic system.

In the digital economy, the creation and use of intangible assets have become essential. A key component of value creation and business success for companies operating in the digital economy is the ongoing development and investment in intangible assets, such as software. Foda & Patel (2018) assert that digital economy activities have markedly diminished the expenses related to the organisation and coordination of intricate operations. Effective, centralised operations that may be physically far from both the sites of operation and the locations of suppliers or consumers are increasingly being used to manage businesses operating at considerable distances on a global scale. Therefore, as a new economic paradigm, the digital economy allowed individuals, groups, and organisations to expand their access to distant markets, which in turn made it easier to provide products and services across borders.

2.1.3 E-Governance versus E-Government

(Howard, 200; Bannister & Walsh, 2002) argue that e-government is merely a significant subset of e-governance. These scholars contend that e-governance is a more comprehensive term that encompasses the use of ICT by the government and civil society to encourage increased citizen participation in the governance of political institutions, such as when politicians and political parties use the internet to effectively gather opinions from their constituents or when civil society organisations that disagree with the ruling class publicise their opinions.

According to Sheridan and Riley (2006), e-governance is a broader concept that deals with the whole spectrum of the relationship and networks within government regarding the usage and application of ICTs, whereas e-government is limited to the development of online services. These researchers further contend that while e-governance is a procedural approach to cooperative administrative relations, that is, the inclusion of fundamental and standard procedures within the parameters of public administration, e-government is an institutional approach to jurisdictional political operations. It is clear that considerable confusion exists in explaining e-government and e-governance, but Palvia, and Sharma, (2007) attempted to resolve these ambiguities and came up with clear and non-overlapping definitions. Their basic idea was that e-government, whether it be at the local, state, federal, or international levels, focuses on stakeholders and constituencies that are not part of the organisation. E-governance, on the other hand, is concerned with the management and administration inside any kind of organisation, be it public or private, big or small.

		Focus	
		Outside	Inside
Type of Organizations	Public Sector – Government Agencies	e-Government (Extranet and Internet)	e-Governance (Intranet)
	Private Sector – MNCs/SMEs	Inter-Organisational Systems – IOS like CRM systems (Extranet and Internet)	e-Governance (Intranet)

Table 0.1.1 Palvia and Sharma (2007) Framework for e-Government versus e-Governance

E-governance, according to this classification, is the internal use of information and internet technologies to manage organisational resources, including capital, people, materials, machinery, and the administration of policies and procedures (for both the public and private sectors). The telecommunications network that facilitates e-governance is the intranet (Palvia, & Sharma, 2007).

2.2 A Historical Perspective on E-Government

According to Koontz (2003), e-government originated in the United Kingdom. In 1957, the British Government tasked the technical support unit of the telecommunication service with evaluating and advising on the use of computers in government offices. According to Mnjama et al. (2008), several nations have gradually incorporated computer systems into their public service since the British government directive. Due to the expansion of the Internet and the World Wide Web in the 1990s, the prevalence of e-government in Europe increased. In 1980, the US Congress passed the Paper Reduction Act, which established a unified framework for the federal government's management of information resources. Since then, a number of laws have been enacted to facilitate the transition from paper to digital records. The objectives of the Computer Security Act of 1987, the Clinger-Cohen Act of 1996, the Paperwork Elimination Act of 1998, and the Paperwork Reduction Act of 1986 and 1987, as amended, were to automate every aspect of government operations.

The Elimination Act required government agencies to offer the public options for electronically reporting, storing, and disclosing necessary information (i.e., Paperless Government). Its goals were to design and implement a solid architecture for information technology and to implement technology management guidelines that would result in effective leadership and an integrated strategy for information delivery. The purpose of the US e-government act was to expand citizens' access to government resources and services (Relyea & Hogue, 2004). In Asia, Africa, and emerging nations from elsewhere, governments have utilised computer systems in their bureaucracies for many years. In the 1990s, both the government and private sector in Africa began to take internet service providers more seriously. According to Mnjama et al. (2008), the implementation of e-government in Africa was preceded by a number of national and regional proclamations. In the 1980s, the Pan African Development System (PADIS), an entity of what was formerly known as the Organization of African Unity (OAU) but is now called the African

Union (AU), recognised the importance of access to government information as a means of resolving Africa's development issues and thus introduced the concept of e-government to the continent for the first time.

The United Nations Economic Commission for Africa, whose mission was to create an environment that would support e-government in Africa, was an early example of e-government initiatives in the region. The UN General Assembly emphasised the need for African nations to develop domestic technology to adapt and adopt information technologies to the African environment. Computers for Africa is an ICT initiative with the goals of sharing the wealth of US technology with people in developing countries, providing a good technological environment to Africa, and fostering US-African partnerships (James et al., 2010). These, along with other World Bank initiatives to promote indigenous knowledge in Africa, laid the groundwork for e-government initiatives across the continent.

According to Ndou (2004) and Siau and Long (2005), the phenomenon of e-government can be categorised into four main categories: a) Government to Government (G2G), b) Government to Citizen (G2C), c) Government to Employee (G2E), and d) Government to Business (G2B). In general, these e-government services aim to improve the efficacy of extensive government processes by delivering transparency and eliminating corruption in transactions (Fang, 2002; Palvia & Sharma, 2007; Huang & Bwoma, 2003; Blakemore & Lloyd, 2008). In addition to this, they plan to make it possible for people, enterprises, and government entities to embrace the practice of seamless service delivery, including the dissemination of information using electronic methods that are based on the web.

a) **Government-to-Government (G2G)** refers to the communication, networking, and connection between the government and other government agencies. It can occur both locally and nationally. G2G may be between the central and local governments, between government departments, between government agencies, or between government

departments and bureaus (Klamo, et al., 2006). G2G aims to improve teamwork to meet the needs of citizens and businesses, increase the efficiency of individual departments and agencies, and transform the community service culture from reactive to proactive. On the opposite end of the spectrum, G2G can be utilised for international diplomacy (Chavan & Rathod, 2009). The research of Bonham et al. (2001) revealed that G2G facilitates enhanced and improved communication among the segments and divisions of a government. Additionally, it improves efficiency (Jaeger, P.T. & Thompson, K.M., 2003). Also suggested by Atkinson and Ulevich (2000) is the improvement of a government's internal systems first, followed by e-transactions with businesses and citizens. G2G encompasses the electronic sharing and exchange of data between government actors, which may include intra- and inter-agency exchanges at any level.

b) **Government-to-Business (G2B)** refers to the communication and business transactions between the government and businesses. According to Ndou (2004), businesses are utilising e-transactions to enhance their communication and operations, thereby reducing costs and enhancing control. The ambitions of G2B are to help businesses grow by making information easier to find and access, to reduce the amount of work businesses have to do, to save businesses time and money by getting rid of the necessity to report the same information to multiple agencies, and to make it easier for businesses to work with the government and promote a flexible and competitive national economy on the global market. By increasing their online interactions with the government, businesses can reduce bureaucracy and streamline the regulatory process, thereby enhancing their competitiveness. Therefore, G2B e-transaction and communication focus on enhancing the business sector and reducing costs. In addition to developing businesses, G2B also offers services such as the collection of taxes, the acquisition of organisational data, business permits, online applications, business registrations, and

permissions (Chavan & Rathod, 2009). It also improves the opportunities for business and government partnerships. It improves government services and adds value-added services for the general public and businesses, such as online tax forms, tax returns, and business registrations. According to researchers, G2B enables the sale and procurement of government and business goods for the benefit of both the private and public sectors (Jaeger, P.T. & Thompson, K.M., 2003). It has greater opportunities for enhancing procurement and sales efficiency and reducing expenses.

c) **Government-to-Employee (G2E)** refers to the interactions that take place among civil servants and the government itself, such as through the training of human resources and the optimisation of day-to-day business functions, how government employees communicate with citizens and how well they respond to their needs (Chavan & Rathod, 2009). G2E's objectives include fostering collaboration between employees of different departments, anywhere and at any time, enhancing opportunities for cross-agency initiatives, and enhancing information sharing and teamwork within and beyond the department. G2E enables government employees to assist citizens with efficient and appropriate administrative procedures and to deliver exceptional services. In addition, it provides the means to ensure effective teamwork with a streamlined workforce and to comprehend and encourage interdepartmental communication. Therefore, the term "G2E" does not just refer to the offering of e-learning to civil servants and the optimisation of interaction between the state and its employees; rather, it also refers to the improvement of information among government employees.

d) **Government-to-Citizen (G2C)** According to Bonham et al. (2001), the objective of G2C is to facilitate more fruitful interactions between individuals and their respective governments. G2C offers facilities that can improve the efficiency of routine transactions in terms of both time and money. These transactions include the issuance

of various licences, governmental identification documents, accreditations, tax payments, utility bills, as well as invoices, and the utilisation of these transactions for welfare payments, jobs, and services. It facilitates easier communication between citizens and their government (Seifert & Petersen, 2002). G2C's goals include providing online and centralised access to government information, facilitating the availability and accessibility of information needed by citizens, enabling direct services and communication with citizens, and enhancing and building trust between the government and its constituents. It also increases citizens' awareness of government policies, regulations, services, and laws (Muir & Oppenheim, 2002). It ensures that the public has access to government information, official documents, and administrative proceedings (Reffat, 2003). G2C e-government, according to Ndou (2004), "enables government to talk, listen, relate, and continuously communicate with its citizens, thereby supporting accountability, democracy, and the enhancement of public services."

2.2.1 E-Government Benchmarking

The national e-government programme development among the UN member states has advanced dramatically since 2001. Countries whose web presence in previous years consisted of one or two static government web pages began offering content-rich, well-designed, citizen-centric sites. But despite these creative initiatives, national e-government programme development remains overwhelmingly at the information provision stage. The level of sophistication with which countries are using the internet to deliver quality information does, however, vary considerably. (UNDPEPA, 2001)

A full-fledged commitment to e-government implies that a country’s leadership recognises the fact that information has become a social and economic asset just as important and valuable as traditional commodities and natural resources. Information benefits mostly the individuals and industries which have unimpeded access to its acquisition, and the self-determination to convert

essential data into knowledge. The theme of the UNDPEPA, 2001 report, therefore, is facilitating information access for enhanced citizen participation through e-government. In 2001, of the then 190 UN Member States, 169 (88.9%) of their national governments used the internet in some capacity to deliver information and services. For 16.8% of these governments, their presence on the internet was just emerging. The official information offered in these countries was often static in content and limited to only a few independent websites. Countries with an enhanced internet presence where users could access an increasing number of official websites that provide advanced features and dynamic information represented 34.2%, the highest number among the Member States. Thirty per cent of the countries surveyed offered interactive online services where users have access to regularly updated content and, among other things, can download documents and e-mail government officials. The capacity to conduct transactions online, where citizens can actually use the internet to pay for a national government service, fee or tax obligation, was offered by 17 national governments, or only nine per cent of the UN Member States. (UNDPEPA, 2001)

A country's social, political and economic composition most definitely correlates closely with its e-government programme development. However, there were exceptions, as evidenced by several developing and transitioning economies. Key factors such as the state of a country’s telecommunications infrastructure, the strength of its human capital, the political will and commitment of the national leadership and shifting policy and administrative priorities play important roles. Each of these factors influences how decision-makers, policy planners and public sector managers elect to approach, develop and implement e-government programmes. (UNDPEPA, 2001)

2.3 The E-Government Index

In determining what defines an enabling environment, this report analyses the above issues by benchmarking the core areas common to national e-government programmes. The final measure, or the E-government Index, attempts to:

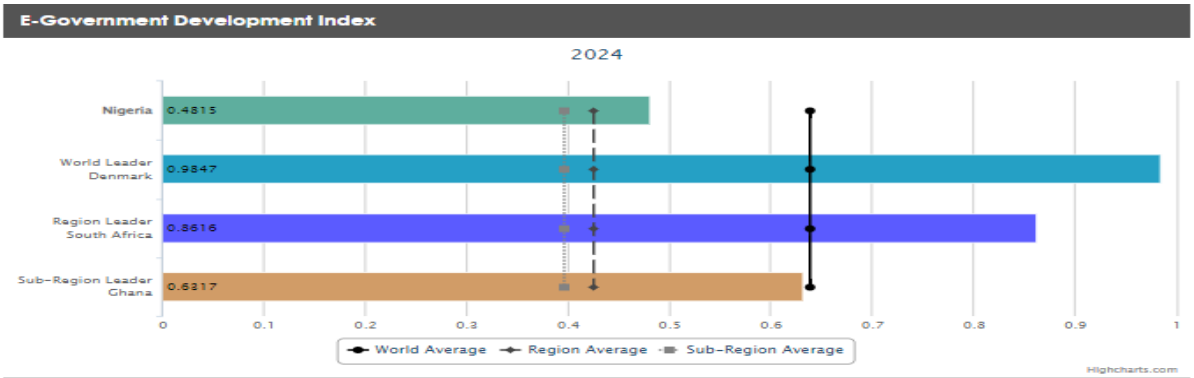
a) Objectively quantify these critical factors

b) Establish a reference point for which a country can measure future progress.

The e-government index presents a more inclusive and less subjective measure of a country's e-government environment (UNDPEPA, 2001). It incorporates a country's official online presence, evaluates its telecommunications infrastructure and assesses its human development capacity. The Index identifies, underscores and weighs the importance of the requisite conditions which enable a country to sustain an e-government environment which ensures that every segment of its population has unconstrained access to timely, useful and relevant information and services. Not surprisingly, the results of the E-government Index tend to reflect a country's economic, social and democratic level of development. Industrialised nations such as Denmark, whose citizens enjoy the benefits of abundant resources, superior access to information and a more participatory relationship with their governments, rank well with a near-perfect 2022 E-Government Development Index of 0.9847 (UN E-Government Knowledgebase, 2024)

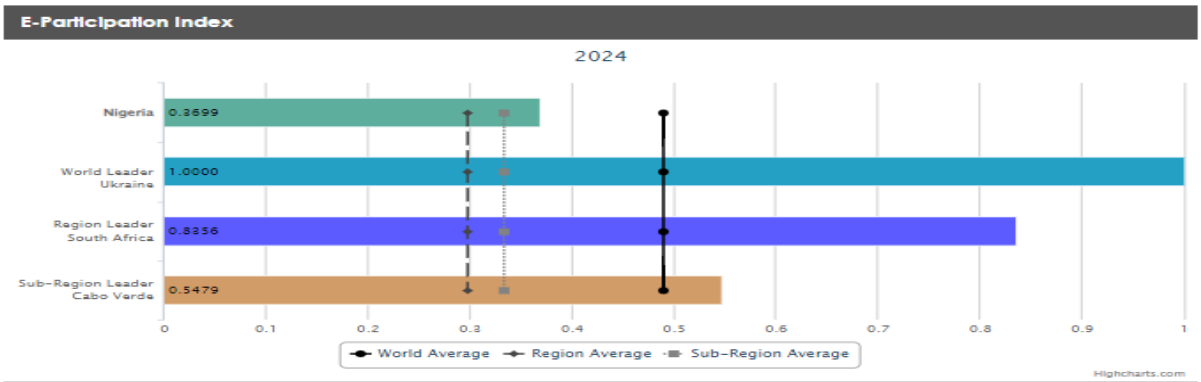
The United Nations Department of Economic and Social Affairs (UNDESA) has been publishing the E-Government Development Index (EGDI) and survey report since 2001 biennially. Over the past ten editions, it has established itself as both a leading benchmarking reference on e-government and a policy tool for decision makers. The survey is the only global report that assesses the e-government development status of all United Nations Member States. The assessment measures e-government performance of countries relative to one another, as

opposed to being an absolute measurement. It recognises that each country should decide upon the level and extent of its e-government initiatives in keeping with its national development priorities and achieving the Sustainable Development Goals. The survey is intended mainly for policy-makers, government officials, academia, civil society, the private sector and other practitioners and experts in the areas of sustainable development, public administration, digital government, and ICTs for development. EGDI serves as a benchmarking and development tool for countries to learn from each other, identify areas of strength and challenges in e-government and shape their policies and strategies in this area. (UN E-Government Knowledgebase, 2024)



E-Government Development Index	2024	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Nigeria (Rank)	144	140	141	143	143	141	162	150	136	139	141	145
Nigeria (Value)	0.48146	0.45250	0.44060	0.38070	0.32910	0.29287	0.26756	0.26868	0.30630	0.27580	0.24848	0.22530

Figure 2.1: Nigeria's EGDI Comparative Ranking 2024 (Source: Department of Economic and Social Affairs- United Nations E-Government Survey, 2024



E-Participation Index	2024	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Nigeria (Rank)	115	117	114	117	118	97	75	157	116	73	75	48
Nigeria (Value)	0.36990	0.30680	0.48810	0.48310	0.35593	0.33333	0.18420	0.01428	0.06818	0.07936	0.06557	0.20690

Figure 2.2: Nigeria's E-Participation Index Comparative Ranking 2024 (Source: Department of Economic and Social Affairs- United Nations E-Government Survey, 2024

Country	Rating class	EGDI rank	Subregion	OSI	HCI	TII	EGDI (2024)	EGDI (2022)
South Africa*	V2	40	Southern Africa	0.8872	0.8026	0.8951	0.8616	0.7357
Mauritius*	V1	76	Eastern Africa	0.5903	0.7456	0.9159	0.7506	0.7201
Tunisia	HV	87	Northern Africa	0.5951	0.6497	0.8357	0.6935	0.6530
Morocco	HV	90	Northern Africa	0.5618	0.6078	0.8827	0.6841	0.5915
Seychelles	H3	92	Eastern Africa	0.4638	0.6769	0.8913	0.6773	0.6793
Egypt	H3	95	Northern Africa	0.7002	0.6150	0.6946	0.6699	0.5895
Ghana	H2	108	Western Africa	0.6084	0.5586	0.7281	0.6317	0.5824
Kenya	H2	109	Eastern Africa	0.7770	0.5271	0.5901	0.6314	0.5589
Cabo Verde	H2	111	Western Africa	0.6892	0.5694	0.6128	0.6238	0.5660
Botswana	H2	112	Southern Africa	0.3985	0.5719	0.8649	0.6118	0.5495
Eswatini	H2	113	Southern Africa	0.4557	0.5836	0.7851	0.6081	0.4498
Namibia	H2	114	Southern Africa	0.4996	0.5738	0.7288	0.6007	0.5322
Algeria	H2	116	Northern Africa	0.3320	0.6418	0.8129	0.5956	0.5611
Rwanda	H2	118	Eastern Africa	0.8207	0.5467	0.3724	0.5799	0.5489
Gabon	H2	121	Middle Africa	0.3187	0.5772	0.8263	0.5741	0.5521
Côte d'Ivoire	H1	124	Western Africa	0.5219	0.4848	0.6693	0.5587	0.5467
Libya	H1	125	Northern Africa	0.0808	0.5951	0.9639	0.5466	0.3375
Zambia	H1	130	Eastern Africa	0.4958	0.6225	0.5088	0.5424	0.5022
Senegal	H1	135	Western Africa	0.4779	0.3380	0.7328	0.5162	0.4479

Figure 2.3: Countries leading e-government development in Africa, 2024 (Source: Department of Economic and Social Affairs- United Nations E-Government Survey)

Country	Group	Rating Class	Rank 2022	Rank 2024	EGDI 2024	Rank Change
South Africa	VHEGDI	V3	65	40	0.8616	+25
Mauritius	VHEGDI	V1	75	76	0.7506	-1
Tunisia	HEGDI	H3	88	87	0.6935	+1
Morocco	HEGDI	H3	101	90	0.6841	+11
Seychelles	HEGDI	H3	85	92	0.6773	-7
Egypt	HEGDI	H3	103	95	0.6699	+8
Ghana	HEGDI	H3	106	108	0.6317	-2
Kenya	HEGDI	H3	113	109	0.6314	+4
Cabo Verde	HEGDI	H3	110	111	0.6238	-1
Botswana	HEGDI	H2	118	112	0.6118	+6
Eswatini	HEGDI	H2	141	113	0.6081	+28
Namibia	HEGDI	H2	121	114	0.6007	+7
Algeria	HEGDI	H2	112	116	0.5956	-4
Rwanda	HEGDI	H2	119	118	0.5799	+1
Gabon	HEGDI	H2	115	121	0.5741	-6
Côte d'Ivoire	HEGDI	H2	120	124	0.5587	-4
Libya	HEGDI	H1	169	125	0.5466	+44
Zambia	HEGDI	H1	131	130	0.5424	+1
Nigeria	MEGDI	MH	140	144	0.4815	-4
Zimbabwe	MEGDI	MH	138	149	0.4481	-11
Uganda	MEGDI	MH	144	150	0.4464	-6
Sao Tome and Principe	MEGDI	M3	154	154	0.4308	
Cameroon	MEGDI	M3	141	155	0.4294	-14
Angola	MEGDI	M3	157	156	0.4149	+1
Lesotho	MEGDI	M3	145	157	0.4123	-12
Malawi	MEGDI	M3	167	163	0.3753	+4
Mauritania	MEGDI	M2	172	165	0.3491	+7
Congo	MEGDI	M2	161	166	0.3391	-5
Ethiopia	MEGDI	M1	179	169	0.3111	+10
Mali	MEGDI	M1	168	173	0.3005	-5
Djibouti	MEGDI	M1	181	174	0.2911	+7
Burkina Faso	MEGDI	M1	166	175	0.2895	-9
Equatorial Guinea	MEGDI	M1	183	176	0.2855	+7
Sudan	MEGDI	M1	176	178	0.2789	-2
Burundi	LEGDI	LM	171	183	0.2481	-12
Niger	LEGDI	L3	188	187	0.2116	+1
Chad	LEGDI	L3	189	189	0.1785	
Central African Republic	LEGDI	L1	191	193	0.0947	-2

Figure 2.4: E-Government Development Index (EGDI) 2022 and 2024 Ranking of Low, Medium, High and Very High Ranked Countries in Africa (Source: Department of Economic and Social Affairs- United Nations E-Government Survey, 2024)

Electronic government (e-government) is the use of information and communications technologies (ICT) to transform government by making it more accessible, effective, and accountable (InfoDev, 2003). This transformation should, according to the European Commission, be combined with organisational change and new skills to improve public services, increase democratic participation, and enhance public policy making (Ron Davies, 2015). E-government has the potential to change the relationship between government officials and the public (Basu, 2004). The impact of e-government will depend not only on technology, but also on organisational resources and strategic vision. There have been four major interrelated trends in global markets over the last decade, which have brought the concept of e-government to the forefront of politics and top government officials. These trends are as follows:

a) **Innovation:** The current era is associated with widespread and successive waves of technology-driven innovations in information and communication technologies. Technologies such as the Internet, network (technologies), electronic commerce, World Wide Web (www), and mobile commerce bring with them ubiquitous connectivity, real-time access, low cost of information exchange, and overwhelming volumes of data and information. Organisations, individuals, and governments are increasingly using these innovative technologies for a large range of purposes.

b) **Information Society:** The world has experienced a transition from an industrial economy to an information economy. Data and information have become a strategic necessity for organisations (Eckerson, 2002). Information Society is a term for a society in which the creation, distribution, and manipulation of information have become the most significant economic and cultural activity. Some governments are making efforts to bring about social change in the move to the information economy (Al-Hakim, 2006). In June 2001, Lena-Hjelm Wallén, then Deputy Prime Minister of Sweden, said, “In the

modern information society, knowledge is the driving force behind the development of whole nations" (Al-Hakim, 2006).

c) **Globalisation:** Changing conditions of competition have forced organisations to adopt an increasingly global strategy. Lambert and Copper (2000) point out that one of the most significant paradigm shifts of modern business management has been that individual businesses no longer compete as autonomous entities, but rather as supply chains. This requires businesses to deal with both local and international entities in their supply chain with minimal regard to national boundaries. Al-Hakim (2006) provided significant statistics about the effect of globalisation on American industry. They indicate that about one-fifth of the output of U.S. organisations is produced by foreign companies, and one quarter of U.S. imports are between foreign affiliates and American parent companies. Free international trading, networking, and e-commerce facilitate globalisation. Even if companies do not participate in business overseas, the presence of foreign companies in local markets affects their competitive advantage. Governments can respond in various ways: for example, by liberalising trade and telecommunication policies and providing appropriate government regulations and legislation to help manage risk.

d) **Democracy:** A significant facet of modernisation is the recognition of the importance of interaction between governments and their citizens in decision-making. Input from citizens in policy formulation and implementation is a crucial requirement for democracy. The European Commission considers wide participation in decision-making the life- blood of democracy (Ron Davies, 2015). ICT can reduce and overcome barriers between the government and their citizens so long as citizens have sufficient access to ICT services. The implementation of e-government is not limited to developed countries; rather, e-government has now become a priority in an increasing number of

developing countries. Evidence shows that “the most innovative uses of the Internet in governance are appearing in the developing world” (InfoDev, 2003, p. 8).

2.4 E-Government Maturity Model Types

An e-government maturity model is a set of stages (from basic to advanced) that determines the maturity of the e-government e-portal. The main benefit of those maturity models is to offer a way to rank e-government portals. Maturity models can also serve as a guide to help agencies enhance their e-government portals. Concha et al. (2012) divided e-government maturity models into three types:

a) **Governmental Models:** those models are developed by governments, consultants and academics to help agencies identify and improve their level of e-government maturity. An example is the “Canadian e-Government Capacity Check”, which consists of a capacity diagnosis set of tools used to assess the capability of public agencies to deliver electronic services to citizens (Concha et al., 2012).

b) **The Holistic Approach Models:** These models are designed to be applied in public services development projects to help agencies identify if an e-government project will be successful or not. An example is the “Capacity Assessment Toolkit” which is a model that determines whether an e-government project will be successful by examining capabilities through 180 indicators (Concha et al., 2012).

c) **The Evolutionary E-Government Maturity Models:** those models focus on the evolution of e-government using sequential steps, for instance, from immature to mature e-government with improved quality. From an academic perspective, the most famous maturity models are the Layne and Lee model and the Andersen and Henriksen model (Fath-Allah et al., 2014).

According to Chaushi et al. (2015), there are many models for measuring the maturity of e-government and there is good amount of literature treating e-government maturity models such as the Deloitte Five-Stage Model, Layne and Lee's Four-Stage Model, the United Nations (UN) E-Government Development Model, and the Gartner Four-Phase Model, all of which attempt to categorize and assess the progression of e-government services from basic information dissemination to full integration and transformation of government operations and citizen engagement. (Andersen & Henriksen, 2006; Carter & Belanger, 2004; Layne & Lee, 2001; Lee, Jungwoo, 2010; Moon, 2002; Valdés et al., 2011). Those models come from practitioners, institutions, as well as researchers in the field, and they include:

d) **Layne and Lee's Four Stages Model. Layne and Lee's Four Stages Model.** This model looks at e-government maturity from two dimensions: Technological and Organisational Complexity, and Integration. The complexity dimension ranges from simple to complex, whereas integration ranges from sparse integration to seamless integration (Layne & Lee, 2001). Looking at the e-government maturity from this perspective, we can come up with four stages of e-government development:
    i. Catalogue Stage
    ii. Transaction Stage
    iii. Vertical Integration
    iv. Horizontal Integration.

Governments are attempting to establish an online presence in the first stage by creating websites and using them to enlighten the public. There is very little information available at this moment. In the second stage, governments begin to advance by enabling individuals to conduct business with them electronically, as they have already established an online presence. According to Layne and Lee, governments would attempt to vertically integrate their services during the third stage. They contend that integrating similar functions at different governmental

levels is far simpler than attempting to integrate various functions at the same level. Government-to-government (G2G) interaction is typical at this point because it allows information systems at various levels to communicate with one another, reducing data redundancy, improving outcome consistency, and expanding opportunities for cost-sharing partnerships, all of which lead to cost savings (Ebrahim & Irani, 2005). The most complicated step of e-government integration, known as "seamless" integration from the authors' point of view, will occur in the fourth or final stage, which is the government's horizontal integration of information systems. Governments can reach a similar goal to enterprise resource planning systems in the commercial sector through horizontal integration (Lee, Tan, and Trimi, 2005).

e) **Andersen and Henriksen Maturity Model.** Andersen and Henriksen developed a four-stage maturity model of e-government. In Denmark, 110 state agencies were evaluated using the maturity model (Fath-Allah et al., 2014). Danish agencies received low rankings, according to the authors. The following is the definition of the maturity model:

   i. **Cultivation:** Government use of the intranet is currently prevalent, as it is both horizontal and vertical integration.

   ii. **Extension:** Intranet usage is widespread. The stage makes great use of the intranet and has customised web interfaces.

   iii. **Maturity:** The intranet is being abandoned. The organisation is well-established, and its procedures are clear.

   iv. **Revolution:** Organisations can share data, and vendors can share apps.

f) **Public Sector Process Rebuilding (PPR) Model**. In 2006, Andersen and Henriksen presented an expansion of the Four Stages Model. Instead of adopting a technology capabilities approach, Andersen and Henriksen use an activity and customer-centric

strategy. Andersen and Henriksen state that there are four stages in the development of e-government, i.e. cultivation, extension, maturity and revolution.

Customer-centric and activity-centric applications are the two perspectives from which the development phases are viewed. The two dimensions' values are continuous rather than discrete, and they range from uncommon to common. Phase I is defined by the adoption and use of intranets within government, front-end systems for customer service, and the horizontal and vertical integration of e-government. The widespread usage of intranets and the implementation of customised online user interfaces for customer processes are characteristics of phase II. Websites are used to display these user interfaces. The expense of creating and managing distinct websites as a result of this phase's lack of connection with other government organisations is its drawback, too.

At this point, manual processes are still used, and although end users have access to a lot of information, there is still a propensity to divert users to other organisations. Abandoning the intranet and integrating it with the Internet are characteristics of phase III. At this point, websites process customer support enquiries, with reducing the marginal costs associated with handling these requests as the top priority. "Data mobility across organisations, application mobility across vendors, and data ownership transferred to customers" are characteristics of the Phase IV model (Andersen & Henriksen, 2006). The ability to track staff actions and request progress online at this stage makes transparency very clear. Increased mobility and the transfer of data ownership to end-users are two benefits of this stage.

g) **The World Bank Stage Model.** According to the World Bank model, governments are using websites to disseminate information in the first stage, which is a one-way communication method. Customers are now able to view documents, forms, rules, and laws. This phase of e-government is similar to Web 1.0 in terms of web progression, where websites are "read-only" instead of "read/write." According to the World Bank

model, governments give citizens the opportunity to interact with them at all levels of government at the second stage. At this point, citizen participation helps to increase public confidence in the government. This concept states that the ability to transact, or the capacity to do so online, is the third stage of e-government. At this level, e-government interfaces—typically websites—allow users to access and utilise government services and complete activities. According to this paradigm, which is similar to the stages of e-commerce growth, the World Bank considers e-government to be a form of G2C e-commerce, and this position is supported by Andersen and Henriksen (2006).

h) **United Nations' Five Stages Model.** With its Five Stages Model, the United Nations is yet another organisation developing a model for e-government maturity (Jayashree & Marthandan, 2010; Ronaghan, 2002). According to this paradigm, e-government will develop in five stages:

   i. Emerging presence
   ii. Enhanced presence
   iii. Interactive presence
   iv. Transactional presence
   v. Seamless or fully integrated presence.

The United Nations' Five Stages Model states that the first stage is defined by a small number of static websites with very little published information. The increasing presence of government agency websites that are dynamic and provide current information is what defines the second stage of e-government. At this point, specialised websites offer a multitude of information to users. Interactive portals that allow information to flow both ways—that is, in addition to allowing users to read content, they also allow them to read and write or provide feedback—are what define the third stage. Users can really carry out operations and duties such as

document renewal, personal document applications, and personal record updates at the fourth stage. The government currently provide internet services to its inhabitants. Governments establish a so-called "one-stop shop" at the pinnacle of e-government, where citizens may view and utilise all of the services the government offers on a single, universal website. Similar to the World Bank's Three Stage Model and, to some extent, to Layne and Lee's Four Stages Model, the United Nations' Five Stages Model examines e-government from the perspective of citizen-government interactions.

i) **Hiller and Belanger Electronic Government Framework** This model (Hiller & Belanger, 2001) consists of five stages:
    i. Information
    ii. Two-way communication
    iii. Transaction
    iv. Integration
    v. Political participation.

The fifth level, political participation, is added to earlier models in the Hiller and Belanger Electronic Government Framework. Since this model examines e-government from a technology standpoint, it essentially takes a similar approach to the other models discussed above. Their model is built on the earlier four-stage models, with the addition of a fifth step "...to more completely represent the set," as the authors note in their work (Hiller & Belanger, 2001). Initially, governments use their websites to disseminate information. Governments permit two-way communication at the second step, typically by email. Governments permit full internet transactions at the third level. Governments integrate their services at the fourth step, which is typically done through a single site, regardless of which agencies provide them. But as the authors point out, the integration of their databases and information systems is the largest challenge to accomplishing this. This integration occurs at this point, allowing governments to

save a significant amount of money by reducing in-person encounters. In this approach, political participation is the fifth stage. According to the authors, this is the phase where participation in online voting, online registration, online posting, and online comments occurs. Given the sensitivity of these services — such as privacy concerns — the authors view this as a distinct stage even though it might be categorised as stage two or three in this paradigm.

There are other e-Government Maturity Models. Numerous more e-Government maturity models have also been created by institutions or scholars. Figure 2.5 below displays other models, including those covered above. Every model makes it abundantly evident that governments start their e-government initiatives by building websites for agencies and/or parastatals. After reviewing the 25 maturity models, it is evident that all the writers concur that governments begin their e-government projects by disseminating information via "Web 1.0" or "read-only" websites. "Web 2.0" or interactivity or two-way communication is another example of this. "E-commerce" or online transactions make up the third stage. The backend integration "ERP stage" is the fourth step. Although the authors disagree on where e-government advances beyond the integration stage, it entails some citizen-government cooperation.

Stage / Model	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Layne and Lee [4]	Catalogue	Transaction	Vertical integration	Horizontal integration	NA	NA
Andersen and Henriksen [5]	Cultivation	Extension	Maturity	Revolution	NA	NA
United Nation [6]	Emerging information services	Enhanced information services	Transactional services	Connected services	NA	NA
Alhomod *et al.* [7]	Presence on the web	Interaction between the citizen and the government	Complete transaction over the web	Integration of services	NA	NA
Hiller and Belanger [8]	Information	Two way communication	Transaction	Integration	Participation	NA
Almazan and Gil-Garcia [9]	Presence	Information	Interaction	Transaction	Integration	Political Participation
Cisco [10]	Information interaction	Transaction efficiency	Transformation citizen centric	NA	NA	NA
Gartner group [11]	Web presence	Interaction	Transaction	Transformation	NA	NA
West [12]	Bill-board	Partial-service-delivery	Portal	Interactive democracy	NA	NA
Moon [13]	Simple information dissemination	Two-way communication	Service and financial transactions	Integration	Political participation	NA
World Bank [14]	Publish	Interact	Transact	NA	NA	NA
Deloitte and Touche [15]	Information publishing	Official-two way transactions	Multipurpose portals	Portal personalization	Clustering of common services	Full integration and enterprise transaction
Howard [16]	Publish	Interact	Transact	NA	NA	NA
Shahkooh *et al.* [17]	Online presence	Interaction	Transaction	Fully integrated and transformed e-government	Digital democracy	NA
Lee and Kwak [18]	Initial conditions	Data transparency	Open participation	Open collaboration	Ubiquitous engagement	NA
Siau and Long [19]	Web presence	Interaction	Transaction	Transformation	E-democracy	NA
Wescott [20]	Setting up an email system and internal network	Enabling inter-organizational and public access to information	Allowing 2-way communication	Exchange of value	Digital democracy	Joined-up government
Chandler and Emanuel [21]	Information	Interaction	Transaction	Integration	NA	NA
Kim and Grant [22]	Web presence	Interaction	Transaction	Integration	Continuous improvement	NA
Chen *et al.* [23]	Catalogue	Transaction	Vertical integration	NA	NA	NA
Windley [24]	Simple Web site	Online government	Integrated government	Transformed government	NA	NA
Reddick [25]	Cataloguing	Transactions	NA	NA	NA	NA
Accenture [26]	Online presence	Basic capability	Service availability	Mature delivery	Service transformation	NA
The UK National Audit [6]	Basic site	Electronic publishing	E-publishing	Transactional	Joined-up e-governance	NA

Figure 2.5: E-Government Maturity Models: A Comparative Study. Fath-Allah, Abdoullah & Cheikhi, Laila & Al-Qutaish, Rafa & Idri, Ali. (2014).

2.5 Benefits of E-Government

Adopting and implementing the e-government plan can help governments deliver more efficient and effective information and services to all e-government sectors. It allows government organisations to coordinate their activities as necessary to lower operational expenses and enhance service (Ndou, 2004). Alshehri and Drew, (2010) thoroughly examined e-government initiatives in its members' countries and listed the advantages of e-government as: improving efficiency in processing large quantities of data; improving services through better understanding of users' requirements, thus aiming for seamless online services; helping achieve specific policy outcomes by enabling stakeholders to share information and ideas; assisting government economic policy objectives by promoting productivity gains inherent in ICT and e-commerce; contributing to governments' reform by improving transparency, facilitating information sharing and highlighting internal inconsistencies; and helping build trust between governments and their citizens, an essential factor in good governance by using internet-based strategies to involve citizens in the policy process. The plan, through involving citizens in the policy process, illustrates government transparency and accountability.

E-government has the potential for stronger institutional capacity building, for better service delivery to citizens and businesses, and for reducing corruption by increasing transparency and social control (UNDPEPA, 2001). According to a study by the Intergovernmental Advisory Board titled "High Payoff in Electronic Government: Measuring the Return on e-Government Investments" (Board, I.A., 2003), any successful e-government programme should focus on at least one of the following areas: financial—reducing the costs of government operations with improved revenue collection; economic development; reduced redundancy—consolidating and integrating government systems; fostering democratic principles; and improved service to citizens and other constituencies.

The strategic use of IT, particularly e-government, has the potential to drastically cut down on the time, money, and effort that citizens and businesses must invest in complying with laws and regulations, according to a 2003 study by Deloitte Research.

It could accomplish this in a variety of ways, such as by centralising information in one convenient location, streamlining the delivery of services to citizens, improving interactions between government units and with businesses, industry, and citizens, increasing the productivity (and efficiency) of government agencies, simplifying and streamlining reporting requirements, reducing the number of forms, facilitating transactions (such as fee payments and permit acquisition), and delivering information, knowledge, and services in a more efficient, cost-effective, and convenient manner. According to Seifert and Bonham (2003), e-government implementation can greatly improve service levels by cutting down on time spent in bureaucracy, in addition to saving money. The urge to offer new and better services tends to focus more on enhancing the citizen's experience while attempting to access various services or to obtain information from the government. The development of technology and e-government opens the door to the possibility of new services, which raises the standard of existing ones.

2.6 Barriers to E-Government Implementation

There are a number of obstacles that could prevent e-government from fulfilling its potential. The intricacy and diversity of e-government projects suggest that there are several obstacles and difficulties in managing and implementing them. The following are the most significant and typical obstacles and challenges:

a) **ICT Infrastructure.** Some technological challenges that arise with the deployment of e-government programmes include the absence of common standards and infrastructure that is interoperable across departments and agencies. One of the biggest obstacles to e-

government is acknowledged to be the ICT infrastructure. In order to facilitate proper information sharing, create new avenues for communication, and provide new services, internetworking is necessary (Ndou, 2004). An architecture that offers a consistent set of guiding principles, models, and standards is required for the shift to electronic governance. According to Sharma and Gupta (2003), a robust technological infrastructure is necessary for the full e-government framework to be implemented. Therefore, the government must provide an efficient telecommunications infrastructure in order to provide e-government services. They added that how different infrastructures' capacities are organised and capitalised with an integrated focus will determine how well e-government is implemented.

b) **Privacy.** Security and privacy are major barriers to the adoption of e-government in the interest of citizens. (OECD, 2003). According to Basu (2004), privacy is the assurance of a suitable degree of protection for data that is attributed to a specific person. The government must protect citizens' right to privacy by only processing and gathering personal information for appropriate reasons (Sharma & Gupta, 2003). Website tracking, information sharing, and the exposure or improper use of personal data are all common concerns. The idea that e-government itself will be used to spy on people and violate their privacy is another concern. According to Seifert (2003), e-government must be viewed through the lens of protecting personal privacy. When tackling the privacy issue in the context of e-government, both technical and policy solutions could be needed. To boost public trust in e-government services, it is also necessary to address privacy concerns in networks in an efficient manner. Applications of e-government depend on citizens' trust that any personal information given to governmental entities would be handled carefully and with privacy. According to Basu (2004), many citizens in underdeveloped nations choose not to take advantage of the e-government potential

because they are so worried about privacy and confidentiality difficulties. According to Teeter and Hart (2003), a thorough privacy policy should outline citizens' rights to privacy and require that personal information be gathered and used only for appropriate purposes.

c) **Security**. Information system security refers to safeguarding data and systems from unintentional or deliberate disclosure to unauthorised access, as well as against unauthorised alteration or destruction (Layton, 2007). It relates to controlling access to the information itself and safeguarding the information architecture, which includes the network, hardware, and software assets (Basu, 2004). Additionally, Seifert (2003) notes that information security—also known as computer security or cyber security— is a significant e-government concern since it is essential to the relationship of trust between the public and the government. In order to solve these issues, it is crucial to implement security standards and procedures that live up to public expectations (Sharma & Gupta, 2003). Network security and document security are the two categories under which security falls. Maintenance and e-infrastructure protection, such as firewalls and data access controls, should be part of it. Additionally, achieving security objectives in e-government applications requires the use of security technologies, such as digital signatures and encryption, to safeguard user IDs, passwords, credit card numbers, bank account numbers, and other similar data being transferred over the Internet and stored electronically (Feng, 2003).

   To protect themselves, people must be taught the value of security precautions like secret passwords. Although security will continue to be a barrier to e-government, Cohen and Emicke (2002) note that this will not significantly hinder its advancement as the public comes to understand and work with its sporadic shortcomings. They also mentioned three important factors that influence security success. The first entails

constant improvements and enhancements to keep one step ahead of criminals. The second is that to discourage potential criminals, security should be conspicuous and intimidating. Lastly, it must be acknowledged that no security system is flawless and that problems can be solved in the end. However, as they are in charge of gathering, preserving, and disseminating private or sensitive data, government agencies ought to think about ways to secure both the data they collect and their websites. To address risks and breaches, a group of security experts should be established. Priority must also be given to the requirement for authority and an infrastructure encryption system (Feng, 2003).

d) **Policy and Regulation Issues.** According to Feng (2003), e-government is an organisational problem rather than a technical one. In order to address electronic activities such as electronic archiving, electronic signatures, information transmission, data protection, computer crime, intellectual property rights, and copyright issues, a variety of new laws, regulations, and governmental changes are necessary for the implementation of e-government principles and functions. Dealing with e-government entails entering into a digital agreement or contract that must be recognised and protected by a formalised law that safeguards and secures these kinds of procedures or activities. Laws about e-business and e-government are still lacking in many nations. Among other things, ensuring the privacy, security, and legal recognition of electronic interactions and electronic signatures would require the establishment of protections and legal reforms (Cavoukian, 2012). A comprehensive perspective that is not solely centred on technology must be incorporated into the endeavour. Before the internet world can run properly, new policy directions and legal reforms might need to be implemented. Old regulatory frameworks, conflicting and overlapping authorities, and outdated legislation can all significantly impede or complicate a project.

e) **Lack of Qualified Personnel and Training.** Lack of ICT skills might be another significant obstacle to an e-government undertaking. This is especially problematic in developing nations, where there has long been a shortage of skilled workers and insufficient training for human resources (UNPA & ASPA, 2001). For e-government to be implemented successfully, the right skills must be available. Technological, commercial, and managerial human skills are necessary for e-government. In addition to the ability to use and manage online processes, services, and customers, technical abilities are required for the implementation, maintenance, design, and installation of ICT infrastructure. Knowledge management programmes that concentrate on staff training are necessary to solve difficulties related to human capital development. These initiatives aim to improve the fundamental skills needed to use e-government. As the pace of change accelerates and new technologies, processes, and competitive models emerge, continuous access to training becomes an essential requirement. All governments must implement a training and skill-learning process in order to fully reap the economic benefits of ICT (OECD, 2003).

f) **Lack of Partnership and Collaboration.** In the process of developing e-government, collaboration and cooperation between public and private organisations, as well as at the local, regional, and national levels, are crucial components. Cooperation and teamwork are difficult qualities to attain, though. To maintain their authority, power, and hierarchical position, governments frequently show significant resistance to open and transparent institutions (Ndou, 2004). People have a mistrust of their governments, particularly in areas with a history of widespread corruption, political unrest, or authoritarianism. Building public and stakeholder trust in government is crucial to ensuring that they will be partners in the e-government endeavour (Carvin et al., 2004). To supply resources, expertise, and capabilities that the government might not have,

cooperation between the public and private sectors is also required. A "new" development paradigm that emphasises collaboration across knowledge-based development program stakeholders is starting to take shape. The private sector should be encouraged to engage in the creation and deployment of e-government by the government, which should act as a facilitator (Ndou, 2004).

g) **Digital Divide**. In the introduction of e-government, proficiency with computers and the Internet has become essential, and a lack of these abilities might result in social exclusion or marginalisation (UNPA and ASPA, 2001). The disparity in opportunities between people with and without Internet connection is known as the "digital divide." The benefits of online services will not be available to those without an Internet connection (OECD, 2003). The digital gap refers to the fact that not all citizens today have equal access to computers and the Internet, either because they lack the necessary funds or skills or for other reasons. In order to utilise e-government apps, people must be computer-literate. To enable participation in e-government development applications, the government should provide basic computer and Internet skills training to its staff and residents. Furthermore, Smith (2002) notes that providing computers in public spaces like supermarkets, post offices, libraries, and shopping centres may aid in closing the divide between homes with and without access to the Internet and data services. According to Feng (2003), the biggest obstacle to the growth of e-government was thought to be the absence of Internet connection among some segments of the population. Low-income or vulnerable persons are unable to utilise the services that are tailored to their needs because of their lack of access. According to a UN (2008) report, the cost of technological impediments to establishing and maintaining e-government services rises as the digital divide widens in developing nations.

h) **Culture.** The cultural ramifications of new technology can be a barrier to the adoption of e-government, rather than technical ones. Cultural influences are more likely to affect subjective conditions and personal traits than they are to affect the actual circumstances surrounding the creation and spread of new technology (Hofstede et al., 2010). Individual behavioural habits and cultural norms influence how citizens and policymakers use technology. Many people resist change and adopt new technology slowly and carefully because culture has a big impact on how they see the world (Feng, 2003). According to Hackney and Jones (2002), successful e-government requires adopting a corporate perspective and strengthening working ties between internal departments and external agencies. It was believed that significant cultural shifts were required to accomplish this. To accommodate internal cultural shifts, organisational growth should be incorporated into the implementation process. According to Chang (2002), social structure, religion, language, education, economic philosophy, and political philosophy are some of the elements that influence culture. Technical improvements include both structural and cultural shifts. Even though they are more difficult to see, these cultural shifts need to be planned for just as thoroughly as technical ones.

i) **Leaders and Management Support.** According to the literature, an innovation has a lower chance of being accepted if senior management does not support it. Therefore, for e-government to be implemented successfully, the highest level of government must support it. The dedication of top management to creating a welcoming atmosphere that promotes the use of e-government applications is referred to as top management support. As a result, it is crucial to the acceptance and use of e-government (Akbulut, 2003). To overcome the innate resistance to organisational change, to gather the resources needed to improve management, and to establish and sustain the organisation-

wide commitment to new ways of conducting government, leadership involvement and clear lines of accountability are necessary for making management improvements (McClure, 2001). High-level leadership's involvement and an integrated IT vision are essential for vertical e-government planning, obtaining the resources required, inspiring officials, supporting interactions with external partners and stakeholders, and coordinating across ministries and agencies. Political leadership and an integrated IT vision are what propel the growth of e-government, as seen in developing nations and transitional democracies. While leaders who believe they stand to lose from the implementation of e-government cannot be relied upon for sustained support, those who see a potential benefit from promoting e-government are more likely to support such initiatives, even in the face of challenges (Seifert & Bonham, 2003). In order to effectively plan and administer ICTs across all public sectors, the government must train the next generation of government leaders, managers, and administrators. This training should concentrate on access opportunity, economic development, and the efficient delivery of public information and services (OECD, 2003).

2.7 A Historical Perspective of Organisational Development

2.7.1 Introduction

The term “organisational development” was first used by Richard Beckhard, a professor at MIT in the 1950s, while he was employed at Bell Labs. He also wrote the "Organisation Development: Strategies and Models," which was a landmark work on the topic. (2019, World of Work Project). However, Kurt Lewin, another MIT professor who in the 1930s previously worked in a variety of fields, such as group dynamics, organisational psychology, and change, is regarded as the founding father of organisational development. Despite being regarded as the

father of organisational development, Lewin never used the term himself. (2019, World of Work Project).

Although it may not have been known by that term, organisational development truly began to take off in the 1960s. As businesses looked for ever-greater competitive advantages and concentrated more on employee engagement and productivity, management sciences grew in importance and professionalism. During this time, organisations began to implement targeted interventions aimed at boosting engagement, and initiatives such as employee surveys were implemented. The capacity to measure and document shifts in employee involvement or opinion aided in the mainstreaming of these techniques. (2019, World of Work Project).

Even though the field of organisational development has expanded dramatically in recent decades, the phrase has only recently gained widespread usage. Before this, organisational development projects under various names such as learning and development, personnel, organisational change, and performance and engagement teams were carried out by HR departments. The origins and development of the area are connected to the current condition of organisational development. The broader human relations movement of the 1950s serves as the foundation for organisational growth (Gallos, 2006).

The same forces that supported parallel growth in the emerging fields of social and developmental psychology also fostered them. These forces included ideas that were popular in later decades and which encouraged self-expression, individual agency, the release of human potential, and expectations for human growth in the workplace. The explosive growth of organisational development was powered by specific advancements in several crucial areas, including:

a) The Training-groups movement in the United States,
b) Other forms of laboratory education in the United,

c) Socio-technical systems thinking from the British Tavistock Institute,
d) Development of survey research methods, and
e) Expanding interests within and outside the Academy of Management Learning and Education in issues of individual and group effectiveness.

Kurt Lewin, Chris Argyris, Abraham Maslow, Douglas MacGregor, Edgar Schein, and Rensis Likert were among the early practitioners and scholars in the field who, modelling the significance of connecting theory and practice, emphasised the importance of learning from experience, and gave organisational development its unique dual focus on comprehending how organisations can and should operate by working to improve them. The formulation and application of organisational development's ideas of people and the change to organisational life and functioning were innovative at the time of their beginning. Knowledge of this history is necessary to comprehend the field of organisation development today (Gallos, 2006).

2.7.2 The Practice of Organisational Development

The study, theory, and practice of organisational development (OD) aims to increase people's efficacy and knowledge in order to achieve better organisational performance and transformation. The process of continual diagnosis, action planning, implementation, and assessment is known as organisational development. Its objective is to impart knowledge and skills to organisations so they can better solve problems and handle change in the future. (Glanz, Rimer, & Viswanath, 2008)

Human relations research in the 1930s led to the discovery by psychologists that organisational structures and procedures affect employee motivation and behaviour, which gave rise to organisational development (OD). The field of organisational development has lately broadened its scope to include knowledge management, organisational learning, and the modification of organisational norms and values to better align organisations with their complex

and quickly changing contexts. (Glanz, Rimer, & Viswanath, 2008) Organisation development is an effort that is (a) planned, (b) organisation-wide, and (c) managed from the top to (d) increase organisation effectiveness and health through (e) planned interventions in the organisation's "processes," using behavioural-science knowledge. (Gallos, 2006). These values are discussed below:

a) **A planned change effort.** An OD programme entails methodically diagnosing the organisation, creating a strategic improvement plan, and gathering resources to implement the strategy.

b) **The total system.** A comprehensive organisational transformation, such as a shift in the culture, the incentive structures, or the overall management approach, is associated with an organisational development endeavour. Although there may be tactical initiatives that focus on certain organisational components, the "system" that needs to be altered is an entirely independent organisation. This is a system that is comparatively free to choose its aims and destiny, given very broad environmental restrictions; it is not necessarily a complete business or government.

c) **Managed from the top**. The system's top management personally cares about the programme and its results in an organisational development endeavour. They are actively involved in the effort's administration. They don't need to engage in the same activities as others, but they must be aware of the programme's objectives, be dedicated to achieving them, and actively support the strategies employed to do so.

d) **Designed to increase organisational effectiveness and health**. To comprehend the objectives of organisational development, one must have a general understanding of what the "ideal" successful, healthy organisation would resemble. What qualities would it have? Although they vary in specifics, the definitions put forth by a number of academics and industry professionals show broad agreement on what constitutes a

sound running organisation. An efficient organisation, according to Richard Beckhard (1969), is one in which:

i. The total organisation, the significant subparts, and individuals manage their work against goals and plans for the achievement of these goals.
ii. Form follows function (the problem, or task, or project determines how the human resources are organised).
iii. Decisions are made by and near the sources of information, regardless of where these sources are located on the organisation chart.
iv. The reward system is such that managers and supervisors are rewarded (and punished) comparably for: short-term profit or production performance, growth and development of their subordinates, and creating a viable working group.
v. Communication laterally and vertically is relatively undistorted. People are generally open and confronting. They share all the relevant facts, including feelings.
vi. There is a minimum amount of inappropriate win/lose activities between individuals and groups. Constant effort exists at all levels to treat conflict and conflict situations as problems subject to problem-solving methods.
vii. There is high "conflict" (clash of ideas) about tasks and projects, and relatively little energy is spent on clashing over interpersonal difficulties because they have been generally worked through.
viii. The organisation and its parts see themselves as interacting with each other and with a larger environment. The organisation is an "open system".
ix. There is a shared value and management strategy to support it, of trying to help each person (or unit) in the organisation maintain their or its integrity and uniqueness in an interdependent environment.

x. The organisation and its members operate in an “action research” way. General practice is to build in feedback mechanisms so that individuals and groups can learn from their own experience.

2.7.3 Organisational development interventions

Interventions in organisational development are strategies and initiatives designed to resolve a specific problem. These initiatives aim to enhance productivity and aid organisational leaders in making improved decisions. The three classifications of organisational development activities are as follows (Maryville University, 2023):

a) **Individual interventions** pertain to individual accountability, routines, foresight, enhancement, or processes. Personalised interventions may include coaching or mentoring. An example is when an employee acquires proficiency in a new technology platform are allocated a mentor well-versed in that platform to address enquiries and to offer assistance. Individual interventions are frequently provided to new employees or those transitioning to other responsibilities within a corporation. At other occasions, they are utilised with individuals exhibiting performance deficiencies or whose attitudes adversely affect team morale.

b) **Team or group interventions** pertain to a specific team or division, rather than the entire workforce. Group interventions may be required when a segment of a firm alters its product development process, for instance. These interventions may manifest as professional development, coaching, or training conferences. Group interventions may entail reorganising a department and conveying new work tasks to the pertinent staff. If the problem is interpersonal, the solutions may include team-building or conflict resolution training. Management generally conducts group interventions; however, an external expert may be necessary at times.

c) **Organisational interventions** encompass the entirety of an organisation or enterprise. They may be essential when a corporation implements new goals, visions, or protocols that impact all employees. In certain instances, organisational intervention may entail enhancing morale to foster a more robust collective vision. These treatments may involve implementing staff wellness programmes or formulating a new goal and vision statement for the organisation. Companies implementing a new business strategy may restructure tasks, establish focus groups, or identify new systems to track performance and success. Organisational interventions are frequently conducted by a third party, such as an external trainer or specialist. These interventions are frequently tailored to a particular organisation or type of issue. Consequently, various forms of organisational development interventions necessitate distinct implementation methodologies.

2.7.4 Organisational Development Intervention Process

The process used to design and implement organisational development strategies is structured into five phases:

Figure 2.6: Organisational Development Phases (Source: Sweat Your Assets Derivatives)

a) **Entry** represents the initial contact between the consultant and client in which they present, explore, and identify the problem, opportunities, or situation. The output of this phase is an engagement contract or project plan that establishes mutual expectations and preliminary agreements about project scope (such as time, money, and resources).

b) **Diagnosis** (assessment) represents the fact-finding phase. It is a collaborative data gathering process between organisational stakeholders and the consultant in which relevant information about the presenting problem is gathered, analysed, and reviewed.

c) **Feedback** represents the return of analysed information to the client or client system; exploration of the information for understanding, clarity, and accuracy; review of preliminary agreements about scope and resource requirements; and the beginning of ownership of data by the client. The output of this phase is typically an action plan that outlines the change solutions to be developed, along with defined success indicators based on the information and data analysis.

d) **Solution** represents the design, development, and implementation of the solution or set of solutions meant to correct the problems, close gaps, improve or enhance organisational performance and effectiveness, or seize opportunities. Outputs may include a communication plan, a role-and-responsibility matrix, a training plan, a training curriculum, an implementation plan, a risk management plan, an evaluation plan, or a change management plan.

e) **Evaluation** represents the continuous process of collecting formative and summative evaluation data to determine whether the initiative is meeting the intended goals and achieving defined success indicators. Outputs generally include an evaluation report with recommendations for continuous improvement.

2.7.5 Organisational Development Categories

There are 4 critical reasons for undertaking organisational development initiatives in any organisation, and they are highlighted in the figure below.

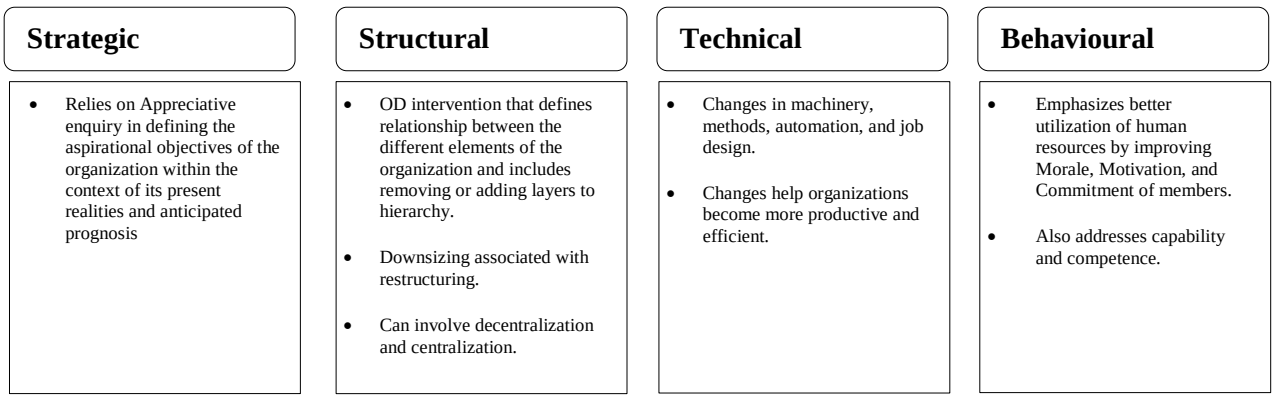


Figure 2.7: The 4 Key Premises or Circumstances Motivating Change (Source: Sweat Your Assets Derivatives)

Organisational development is not a process that happens overnight. It is a long, continuous cycle of initiating, implementing, and evaluating change in an organisation. Whether it is happening at the individual, group, or organisational levels, organisational development has one goal — to promote the long-term growth and productivity of an organisation.

2.8 Organisational development and the Nigerian Public Sector

Organisation Development (OD) is increasingly employed in strategic transformation projects inside public sector organisations (Van Nistelrooij & Sminia, 2012). Organisation development in the public sector is primarily driven by sudden and largely external disruptions, including shifts in policies or legislation, technological advancements, changes in top management, or reorganisations involving the consolidation or division of public agencies. Such developments necessitate substantial and strategic transformations to restore alignment among the organisation's objectives, its environment, and the organisation itself. In these cases, public sector organisations tend to implement a top-down strategy to change inspired by strategic management (Bryson, 2018).

This approach is particularly suitable as the top management team is optimally positioned to initiate and execute swift and intentional organisational change, possessing the resources and authority to operate from a holistic perspective that transcends functional or departmental biases (Conger, 2000; Jensen, 2000). From an organisational development perspective, a bottom-up approach that includes the comprehensive participation and active engagement of all employees is deemed crucial for fostering commitment and ensuring the successful implementation of strategic reorientation (Beer & Nohria, 2000; French et al., 2000; Cummings & Worley, 2005).

Public organisations are distinguished from private organisations by a greater number of decision-makers, a broader diversity of stakeholders, more intense organisational dynamics, and a more bureaucratic organisational structure. Patchett (2005: 598–9) asserts that the

political characteristics of the legislative and representation processes, coupled with the functional expertise and efficiency focus of the administrative process, create significant tensions inside a public-sector organisation. The distinctive setting of a public organisation imposes distinct requirements on the execution of organisational development efforts, particularly concerning collaboration with various authorities and the effective management of legislative and political influences.

Comparative analyses of decision-making in public and private organisations indicate that effective execution in the public sector necessitates a bottom-up strategy alongside a certain level of employee involvement (Bryson, 2018; Ansell & Torfing, 2021). This elucidates the increasing interest in organisational development concepts and methodologies within the public sector (Bryson, 2018; Ansell & Torfing, 2021). However, the implementation of organisation development in entities accustomed to centralised control and bureaucratic, political environments may conflict with the existing organisational culture or be viewed as detrimental to the public administration work ethos (O'Flynn, 2007; Pollitt & Bouckaert, 2017).

Nigeria stands to benefit significantly from the promise of e-government; nevertheless, its implementation has not achieved optimal capability to provide the full multiplier impact in public sector transformation (Nchuchuwe & David, 2016). Despite the gradual yet consistent advancement of e-government in Nigeria, the introduction of the General System for Mobile communication (GSM) network in 2001 significantly bolstered the nation's economic development. The Nigerian Communication Commission (NCC) reports that Nigeria's tele-density is 78.1 per cent as of January 2025 (Consumer Connect, 2025). Nevertheless, the repercussions of this expansion have not reached the population who urgently require a reflection of private sector ideals rooted in service delivery. Consequently, after twenty-four years of e-government adoption for public service delivery and its associated implementation

issues, it is essential to emphasise the organisational development viewpoint to enhance the implementation of e-government services in Nigeria.

2.8.1 The Digital Economy in Nigeria

E-government and digital economy in Nigeria began over twenty years ago when businesses began relying on services offered by the now-defunct Nigerian Telecommunication Company (NITEL) and other media organisations. This subsequently prompted successive administrations in Nigeria to implement measures aimed at promoting the development of ICT in the country. Nonetheless, these reforms yielded negligible results on Nigeria's economic advancement. Additionally, upon Nigeria's shift to democratic government in 1999, the Federal Government redefined its ICT policy objectives, leading to a positive trajectory for the digitalisation of socio-political and economic activities with the establishment of the Nigerian National Information Technology (NNIT). Nworgu (2007) asserts that the NNIT was assigned the responsibility of establishing a sustainable policy framework to position ICT as a crucial tool for socio-political and economic advancement in Nigeria.

This coincided with the Federal Government's liberalisation plan in the telecommunications sector, resulting in the emergence of Global System for Mobile Communications (GSM) operations and Internet Service Providers (ISPs) nationwide. Abasilim and Edet (2015) assert that the importance of e-governance in public service delivery is crucial, leading the Nigerian government under President Obasanjo to digitise public administrative tasks to conform to modern realities. Digitalisation was regarded as a foundational element for e-governance and the digital economy in Nigeria. Awosanya (2019) contends that the principal aim of the strategy was to establish Nigeria as a competent Information Technology (IT) nation in Africa and a notable player in the global ICT arena. Nigeria sought to develop a sustainable communication technology infrastructure under the NNIT policy framework to promote e-governance and the digital economy agenda in Africa. Thus, e-governance functions as a policy framework of the

Nigerian government is designed to enhance the effective dissemination of information throughout the Ministries, Departments, and Agencies (MDAs). The strategy is to amalgamate several technical approaches to improve the government's information and communication technology sector, thereby establishing the nation's communications system as one of the most rapidly expanding markets in Africa.

In 2011, the government instituted various online policy frameworks to advance its e-government and digital economic objectives (Awosanya, 2019). The use of mobile applications and portals for public transactions aims to enhance government service delivery to citizens. This facilitated Nigeria's development of e-government initiatives to enhance corporate efficiencies domestically and internationally. These measures prompted the government to augment technological capabilities in ICT to optimise economic processes and to transmit information to citizens effectively, irrespective of distance and geographical location inside the country.

Patanmi (2020) contends that the rebranding of the Nigerian Ministry of Communications to the Federal Ministry of Communications and Digital Economy by former President Buhari's administration was intended to strategically position Nigeria to capitalise on the digital economy, as the communications component of the Ministry merely represented the means to attain this goal. Thus, the old name was inadequate in conveying the essence of the new vision that amalgamates content and channel utilisation to achieve the government's goals of digitising its economic operations. Pantami (2020) also emphasised that this is especially vital since it enables Information and Communication Technology (ICT), the most diverse and swiftly growing business, to mobilise other sectors and align with the government's economic transformation. This is crucial for augmenting the government's revenue-generating initiatives, as e-governance streamlines information dissemination to citizens; hence, delivering services to the public and allowing the government to get feedback. This seeks to establish a framework

for achieving transparency, efficacy, efficiency, and openness in governance that is financially beneficial for the government.

2.8.2 E-Government in Nigeria

The e-government vision of Nigeria, as contained in the National e-government plan (NITDA, 2020), is to create a world-class open and digitised government that connects with people to drive efficiency in public administration, responsiveness of civil services and transparency in governance, leading to improvement of the quality of life of Nigerians. The plan further states that the development of e-Government in Nigeria largely consists of 3 phases:

a) **Pre-Implementation Phase:** This is the design stage where political leaders spearhead the e-Government effort, necessitating the presence of several advocates to enhance social awareness.

b) **Implementation Phase:** During this phase, the vision and strategic objectives of e-Government must be established based on an assessment of the environment and the limitations. Secondly, the plan and milestones aligned with the strategic objectives must be established. Thirdly, strategic priorities must be established by evaluating the extent of governmental innovation, demand and supply factors, both bottom-up and top-down methodologies, sourcing, and the outcomes of stakeholder analysis. Fourthly, an As-Is analysis and a To-Be model for the current resources, which are critical success factors, should be presented. Ultimately, procedures such as Business Process Reengineering (BPR), Strategic Planning (SP), and system development will commence.

c) **Post-Implementation Phase**: During this phase, three activities must be executed: firstly, the project's performance should be assessed by checking its adherence to the plan without incurring risks. Secondly, the operation and maintenance of the project must be evaluated in conjunction with the management of information resources. Thirdly, the advancement of e-Government services and the solicitation of feedback for

the project should be executed to ensure optimal utilisation of the services and to facilitate the development of the second phase of e-Government.

Vision	**World Class Open Government**		
Attributes	Transparency	Efficiency	Quality of service
Objectives	Enhanced presence	Transactional presence	Connected presence
Policies and Strategies	**5 Policies**	**10 Strategies**	
	Powerful Leadership	1. Establish the Presidential Committee on ICT/e-Government	2. Identify e-Government Champions
	Mass Literacy for ICT and e-Government Skills	3. Expand Capacity Building of e-Government	4. Publicise e-Government Initiatives
	Sufficient Budget for e-Government	5. Draw a special Budget on e-Government	6. Create a variety of funding sources
	Global standard e-Government	7. Develop Adequate infrastructure and Application	8. Strengthen R&D and Education in ICT
	Government Process Re-engineering	9. Establish a Legal framework for e-Government	10. Establish Organisational Framework for e-Government

Table 2.2: E-Government Vision in Nigeria (Source: Nigeria e-Government Masterplan)

The Nigerian FMCIDE was founded in 2011 to facilitate the utilisation of information and communications technology as a vital tool in Nigeria's transformation agenda, namely in the domains of job creation, economic development, and governance integrity. To promote the use of e-government systems throughout all Ministries, Departments and Agencies (MDAs), the FMCIDE has four major objectives, which are as follows:

a) Connected government

b) Informed citizenry

c) Open data

d) Open government collaboration.

The Ministry comprises twelve departments, five units and six agencies to deliver on its mandate. These agencies are:

a) Galaxy Backbone (GBB)

b) Nigerian Communications Commission (NCC)

c) National Information Technology Development Agency (NITDA)

d) Nigerian Postal Service (NIPOST)

e) Nigerian Communications Satellite Limited (NIGCOMSAT)

f) National Identity Management Commission (NIMC)

Taking advantage of recent developments in technology, the Ministry of Digital Infrastructure and Information Technology has launched several programmes to facilitate residents' and enterprises' use of government services. These efforts have been prioritised to encourage the widespread use of e-government across all MDAs, which will, in turn, improve service delivery and drive openness, integrity, and good governance.

Subsystems	**Components(6)**	**Policies(5)**	**Strategies(10)**	**Initiatives (25)**
Social subsystems	Governance	Powerful Leadership	Establish the Presidential Committee on ICT/e-Government	Establish the Presidential Committee on ICT/e-Government
			Identifying e-Government Champions	Develop a Talent Pool of e-Government Champions.
		Mass Literacy of ICT and e-Government	Expand the Capacity Building of e-Government	Develop a Capacity Building Program
			Publicise e-Government Initiative	Conduct a Publicity Campaign for e-Government
				Develop Information Access Centre
		Enough Budget for e-Government	Draw Special Budgeting on e-Government	Create and Utilise e-Government Promotion Fund
	Financial Resources		Create a Variety of Funding Sources	Funding Through a Variety of Financing Instruments
	Legal and Regulatory Agreement	Government Process re-engineering	Establish Legal Framework for Government	Laws Necessary for e-Government General Laws for the Information Society

	Organizational Structure		Establish Organisational Framework for e-Government.	Build the Dedicated Organisational Structure or e-Government Implementation.
Technical Subsystems	Infrastructure and Technology	Global Standard e-Government Infrastructure and Technology	Develop Adequate Infrastructure & Application	Improve the Government Integrated Data Centre (GIDC)
				Develop e-Signature/Authentication.
				Establish a Standard Software Framework for e-Government.
	Service Application			e-Finance
				e-Procurement
				e-Taxation
				e-Customs
				e-Education
				e-Health
				e-Agriculture
				e-Immigration
				e-Voting
			Strengthen R&G and Education in ICT	Expand Education in ICT and Enhance Quality of ICT Education.

Table 2.3: Nigeria's e-Government Sub Systems Mapping into Polices, Strategies and Initiatives (Source: Nigeria E-Government Masterplan)

2.8.3 The E-Government Department in the Nigerian Federal Ministry of Communication, Innovation and Digital Economy (FMCIDE)

The e-Government department is strategically positioned to oversee the conceptualisation, design, purchase, and implementation of IT-driven applications and solutions across Federal Government (FG) agencies and parastatals. Its operational duties are:

a) Facilitating the creation of a standard for e-Government adoption across the FG

b) Facilitate the development of a national e-Government strategy and lay the foundation for long-term adoption of e-Governance in the country.

c) Responsible for leveraging ICT as a tool for efficient delivery of government services – Business process re-engineering and digitisation of government services.

d) Responsible for the successful implementation of FMCIDE's various e-Government projects.

e) Responsible for ICT-related services across all of government, especially as it pertains to shared infrastructure/applications

f) Oversight function (on behalf of the Ministry) on other e-Government projects being deployed by other MDAs to ensure proper alignment and savings for the government.

g) Supervision of agencies under the ministry – NITDA and Galaxy Backbone Ltd.

h) Responsible for any application/project that facilitates digital interaction (Internet and other online platforms) between the government and its "consumers" – citizens (G2C), businesses (G2B), government agencies (G2G), etc.

i) Champion the adoption of ICTs (especially using the Internet and 'new media' platforms) as a tool for better governance.

j) Responsible for the continuous improvement and optimisation of e-Government services and platforms

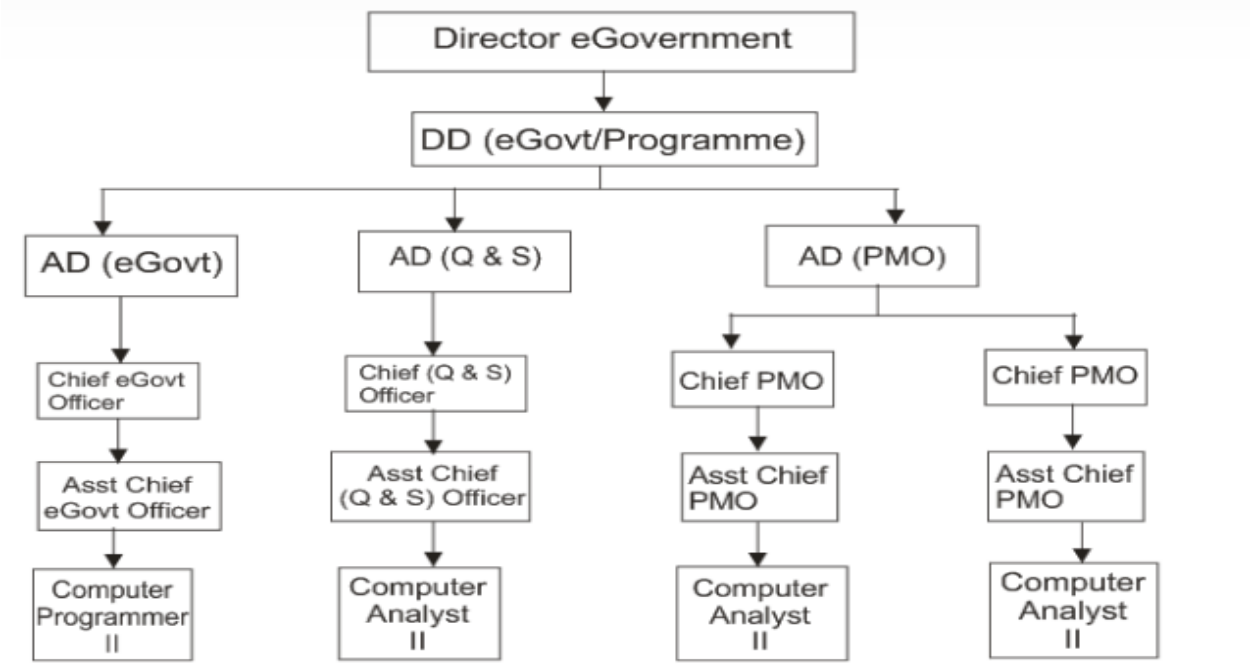


Figure 2.8: E-government Departmental Organogram (Source: http://fmcde.gov.ng/index.php/e-government/)

2.9 E-Government Initiatives in Nigeria

According to the Nigerian Federal Ministry of Communications and Digital Economy, its e-government department is responsible for the following initiatives:

a) **The National E-Government Master Plan.** This is a roadmap developed in collaboration with the Korean Government to facilitate the implementation of evidence-based e-Government practices throughout all Ministries, Departments, and Agencies of the Federal Government.

b) **Government Service Portal (GSP).** This portal (services.gov.ng) aims to furnish individuals, enterprises, and foreigners with streamlined access to an extensive array of public services through a centralised government platform.

c) **Government Contact Centre (GCC).** This technology enables residents to access government services and information via telephone calls, irrespective of their location, reading level, or spoken language.

d) **Open Data Portal.** Data.gov.ng is a website that functions as a central repository for the public dissemination of non-sensitive datasets gathered by various government departments and organisations.

e) **Electronic Document Management System (EDMS).** The EDMS aims to transition all government records to a digital format. This will result in enhanced information security, reduced costs, automated business processes, and improved access to information - all aimed at leveraging technology to augment the efficiency of the public sector.

f) **The E-Government Capacity Building Program.** This is an ongoing training initiative for the whole public service designed to establish the foundation for the sustained development and use of e-government across all sectors of society.

g) **The National E-Health Strategic Framework.** This framework was developed in partnership with the Federal Ministry of Health to enhance care quality, reduce operational and administrative costs, improve online communication, expedite health information dissemination, and enhance the productivity of healthcare personnel.

The two (2) e-government initiatives that were explored in this research are:

2.9.1 The National E-Government Master Plan

The national e-government master plan was developed in collaboration with the Korean Government to enable the adoption of evidence-based e-government practices across all Ministries, Departments, and Agencies (MDAs) of the Federal Government. The department is tasked with the extensive execution of the plan aimed at fully transforming government transactions, improving the overall experience for citizens and businesses interacting with the government by optimising services, increasing citizen engagement, and advancing transportation. This aligns with the government's stance on adopting digitalisation to enhance public sector efficiency. The primary objective and justification of the National e-Government Master Plan is to enhance the efficiency and transparency of public administration services. The aims of the National e-Government Master Plan (NITDA, 2020) are:

a) To improve the government management structure and efficiency.
b) To improve government processes and service delivery.
c) To improve government transparency and accountability.
d) To drive digital literacy and technology awareness among government officials and citizens.
e) To enhance collaboration between various organs of the Government.
f) To reduce the overall cost of governance.
g) To enhance private sector partnerships in the service delivery model.

h) To recognise citizens as customers of the Government and evolve strong customer relationship programmes.
i) To provide multiple access and delivery channels for citizens, businesses and government employees.

The Federal Ministry of Communications and Digital Economy (FMCDE) developed the Nigeria e-Government Masterplan in fulfilment of its mandate, which is to: “Utilise ICT to drive transparency in governance and improve the quality and cost effectiveness of public service delivery in Nigeria”. This was accomplished through study, collaboration, and wide engagement with pertinent parties, supported by the Korea International Cooperation Agency (KOICA). The National e-Government Master Plan was established with its vision and objectives aligned with the Federal Government Economic Recovery Growth Plan (ERGP). The Economic Recovery and Growth Plan (ERGP), a Medium-Term Plan for 2017–2020, is founded on the Strategic Implementation Plan and aims to restore economic growth by harnessing the ingenuity and resilience of the Nigerian populace, the nation's most invaluable assets. The function of government in the 21st century must transition from being a comprehensive provider of citizens' needs to a catalyst for removing obstacles that hinder innovation and market-driven solutions. The Plan acknowledges the necessity of utilising Science, Technology, and Innovation (STI) to establish a knowledge-driven economy. The ERGP aligns with the objectives of the Sustainable Development Goals (SDGs) since its programmes tackle the three pillars of economic, social, and environmental sustainability. In this context, the primary objective of the e-Government Masterplan is to improve transparency, efficiency, and the quality of public service administration by advancing the legal system, organisational framework, government service delivery, human capital, technological infrastructure, and public awareness. Proposed policies aim to enhance citizens' quality of life by bolstering national competitiveness, supporting a market economy, encouraging

participatory democracy, and increasing openness in the public sector. A fundamental stipulation of the National E-government Masterplan mandates that all government entities establish a Digital Transformation Technical Working Group to collaborate with the Ministry of Communications and Digital Economy, ensuring the cohesive and synchronised execution of projects, programmes, and policies.

There are 10 principles guiding the successful implementation of the Nigerian e-Government Master Plan, and they (NITDA, 2020) are:

a) **More attention to organisational changes.** The primary goal of e-government lies in transformation and social change rather than IT Initiatives. More attention is to be paid to organisational changes than application developments or technicalities.

b) **Consistent policy throughout implementation phases**. The remarkable achievement of e-Transformation is not made in a day or two, but it is the result of strenuous efforts and consistent policy line all through the implementation period.

c) **Inclusion of the users as a feedback mechanism**. The success of e-Transformation projects is not determined by the IS outputs but by the outcomes perceived by the users. The inclusion of the users in all sectors of the e-Government system as a feedback mechanism is critical to its success.

d) **Shared vision among all stakeholders**. Vision is tomorrow's reality, not yet realised today. Shared vision is the source of leadership stimulus to propel the e-Government project and the energy for a positive climate.

e) **Focus on the citizens and not on the government**. The focus should be on the citizens, not on the government. IT is simply a vehicle for value creation; therefore, we need to think hard about what the citizens want from e-government services.

f) **Establishing Data Reference Model (DRM).** Global databases have to be designed first to cover the entire government's functions. Securing the data as a shared resource

common to all business units is the key to successful improvement of responsiveness of the entire government and the source to develop a variety of services.

g) **New practices of managing data by attributes.** Data management practices have to be changed to accommodate new breeds of data. Data management should be shifted to the new practices of managing data by attributes, so that new types of data like social data streams and the data sensed from all artefacts in the real world can be captured.

h) **Plan for tomorrow.** The E-Transformation plan has to be set up for tomorrow and not the present day. The true ICT revolution is yet to come. We need to be attentive to the new opportunities provided by the Internet of Things (IOT), Artificial Intelligence, and Blockchain.

i) **Adaptive officials and the public**. A way to enlighten and train government officials and the public has to be found to make them adaptive to the emerging information environment. We need a new breed of people who are capable of interpreting and utilising multi-dimensional information.

j) **Laws Adaptive to Environmental Changes.** Laws adaptive to environmental changes should be prepared in advance. Management of growth simply means management of timing. We should be aware of a bust to come soon after rapid growth, which will, in turn require tremendous social costs.

2.9.1.1 Nigeria e-Government Masterplan Seven Critical Factors

To successfully implement the e-Government in Nigeria, the following seven critical success factors that underlie the notable achievement in e-Government of advanced countries were also adopted by the FMCDE (NITDA, 2020):

a) **The adoption of the Master Plan** of Nigeria e-Government as a National Agenda

b) **Sustained Investment in e-Government**. The sustained investment is required for transforming the nation by ICT/e-Government.

   i. Aspire to grow investment in e-Government to 1% of the annual budget

   ii. It is highly recommended to create and utilise the Information and Telecommunication Promotion Fund to build e-Government projects

c) **Appropriate Institution for Each Phase of e-Government Implementation**. In order to sustain e-Government implementation, appropriate laws need to be enacted during each phase, ensuring a positive enabling environment for e-Government.

   i. The establishment of legal systems and the empowerment of the President to the project steering organisation will keep Nigeria's e-Government policies and strategies consistent.

d) **Dedicated organisation structure for e-Government implementation**. It is critical to form a dedicated organisation structure for e-Government implementation.

   i. A supervisory committee shall be established directly under the President.

   ii. Chief Information Officers (CIOs) shall be designated for central and regional e-Governments, thus creating a streamlined support structure.

   iii. Specialised e-Government technical support agencies, including NITDA and GBB shall be utilised for field works required for the projects.

e) **Balance between the demand for and supply of e-Government services**. The Nigerian government needs to develop policies for balanced development of an information-oriented society on the demand and supply side of the IT Industry, so that both sides can maintain a virtuous cycle where one side enforces or reinforces the other.

   i. Efficient role division with the government taking care of e-Government policy making, IT companies providing technology and skills, and citizens taking up these e-government services.

f) **Change management for public officers in an emerging ICT environment.** What is more important than anything else is to create a positive environment for potential users, like government officials and the general public.

   i. A scheme for change management in an emerging environment needs to be developed to overcome resistance from the users, which is primarily caused by the fear of workforce reduction and the avoidance of using information systems.

g) **Capacity development programme for civil servants and citizens** Capacity development programme can be used as a catalyst for government reform.

   i. A dedicated training organisation for e-Government has to be established.

   ii. Optimised e-Government training courses for Nigeria have to be developed.

2.9.1.2 Expected Outcomes

The strategic outcomes from the proposed e-Government Masterplan are a high-performing Government with the following features (NITDA, 2020);

a) High performance culture: - Accountability for performance - Citizen-centric government - An integrated government

b) Right people: - Competent, committed, non-corruptible public officers - Public Service as employer of choice

c) Responsible financial management - Fiscal Sustainability - Effective and efficient use of financial resources

The outcomes of the e-Government Master Plan Implementation are aligned with enhancements in the e-Government Development Index and the e-Participation Index. These are quantifiable effects that will advance e-Governance from the emerging to the connected phase of growth.

Expected Outcomes			
Components	**Classifications**		**KPIs**
E-Government Development Index	Online Services Index	Emerging	i. Government documents (e.g. Policy, legislation) ii. Linkage with other agencies iii. Providing news and information directory
		Enhanced	i. Interactive online services are available ii. Downloadable civil application form iii. Video services iv. Multi-language services v. Partial online applications (eg., online request, post service)
		Transactional	i. Online applications ii. Authentication services iii. e-voting iv. Downloadable/up-loadable forms v. Issuance of various certificates and licenses
		Connected	i. Web2.0 available ii. Facilitating communications with citizens iii. Integrating multi-agency services iv. Tailored e-services for citizens' whole life and citizens' engagement
		Environment	i. Information and services available on environmental issues ii. Engaging citizens in environmental issues
		Openness	i. Open portal for public information ii. Open data site and its related legislation, and institutions iii. Open the data directory, and the index is available
	Telecommunication Infrastructure Index		i. PC penetration ii. Internet users iii. Telephone line iv. Mobile subscription v. Fixed broadband vi. Fixed internet subscription
	Human Capital Index		i. Adult literacy ii. School gross enrollment rate
E-Participation Index	E-Information: Policy Available Online		i. Provide information to facilitate citizens' engagement ii. Notice of online policy forum schedule iii. Online policy information
	E-Consultation: Online Participation in Policy		i. Collect citizens' opinions and provide feedback to citizens ii. Online survey of public opinion iii. Online chatting, instant message & blogging
	E-Decision: Online Decision Making		i. Engaging citizens in policy making ii. Online forum, online petition & online voting

Table 2.3: Expected Outcomes for e-Government (Source: National E-government Plan)

The primary objective of the Master Plan for Nigeria's e-Government is to enhance the transparency, efficiency, and quality of public services, aligning with the vision of the Nigerian

Economic Recovery Growth Plan (ERGP), which aims for sustained inclusive growth to facilitate structural economic transformation, emphasising improvements in both public and private sector efficiency. (NITDA, 2020)

2.9.2 The E-Government Capacity Building Program

In the course of reviewing relevant literature, the researcher discovered that the E-Government Capacity Building Program is also embedded as an initiative in the E-Government Master Plan. The National Information Technology Development Agency (NITDA) is the principal agency for e-government execution, internet governance, and comprehensive IT advancement in Nigeria. The NITDA Act of 2007 delineated the Agency's mandate to encompass the establishment of a framework for the planning, research, development, standardisation, application, coordination, monitoring, evaluation, and regulation of Information Technology practices, activities, and systems in Nigeria, along with all pertinent matters (NITDA, 2007). This includes, without limitation, ensuring universal access to Information Technology and system penetration in rural, urban, and underserved areas. This indicates that the development of human potential for Nigerians is a significant legislative obligation of NITDA. Empirical research indicates that citizens need a comprehensive understanding of Information Technology to use advancements in IT products and services for societal progress. Information Technology is universally acknowledged as a fundamental facilitator of development, with IT-enabled capacity development catalysing and enhancing growth across all economic sectors (NITDA). Consequently, capacity training constitutes a vital component of the National Information Technology Development Agency's mandate (NITDA, 2007)

NITDA seeks to address the knowledge and competency deficiencies of CEOs in Nigerian public institutions by ensuring they are well informed about the National e-Government agenda and receive e-Government training. The Agency plans and executes the “e-Government capacity building for Chief Executive Officers and Heads of Ministries, Departments, and

Agencies." The purpose of these capacity-building seminars is to aid executives in reducing the failure rate of ICT projects and to inform them about the Nigerian e-Government Master Plan, which seeks to enhance the transparency, efficiency, and quality of government services. The specific objectives of the capacity-building effort are:

a) To effectively improve the utilisation of ICT and the quality of service rendered to citizens, businesses and other governmental institutions;
b) To facilitate better management and successful adoption of e-government in MDAs.
c) To ensure efficiency in the delivery of government services to citizens, businesses and other governmental institutions; and
d) To effectively reduce the volumes of failed ICT projects within their organisation and the country.

The e-Government Capacity Building Programme seeks to provide Nigerian public officials with essential skills for the Fourth Industrial Revolution (4IR) and the future workforce (BusinessDay, 2022). This continues the execution of the e-Government Master Plan and the National Digital Economy Policy and Strategy via the Strategic Roadmap and Action Plan (SRAP 2021-2024) of the National Information Technology Development Agency (NITDA), overseen by the Nigerian Ministry of Communications and Digital Economy. The Federal Ministry of Communications and Digital Economy (FMCDE) is initiating training and awareness programmes to be implemented across all key Millennium Development Agencies (MDAs) promptly, aiming to facilitate the effective execution of the master plan, which seeks to establish a foundation for the sustainable growth and application of e-government throughout society. This ongoing training programme for the whole public service has taught over 2000 public officials at both national and regional levels, focusing on institutional change and human resource development. The e-government capacity-building initiative commenced in 2020 but has since expanded in scope. The capacity-building programme seeks to enhance the efficiency

and transparency of public administration services, thereby significantly contributing to the fortification of the Nigerian workforce, ensuring a pool of proficient individuals equipped with pertinent 21st-century ICT skills for effective public administration (BusinessDay, 2022).

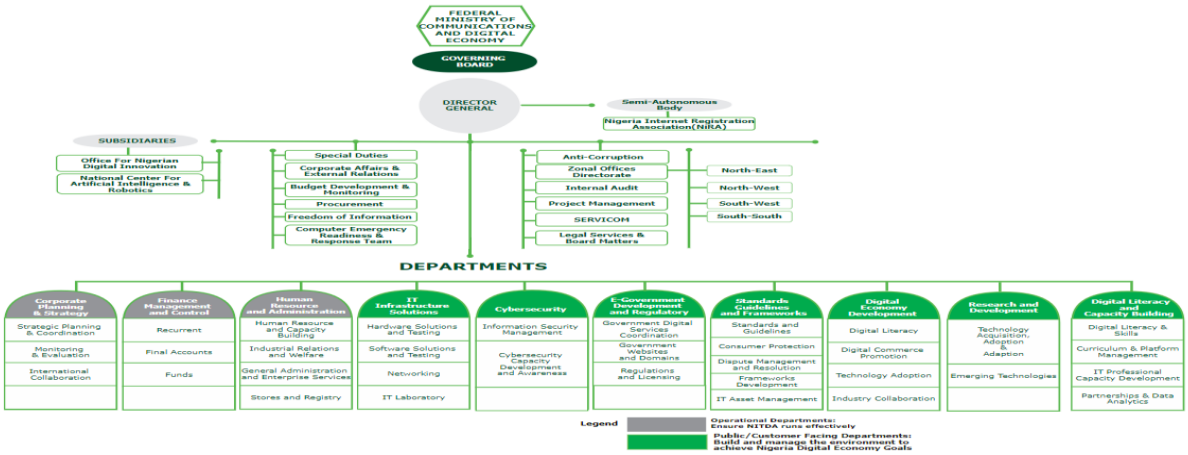


Figure 2.9: NITDA Organogram (Source: https://nitda.gov.ng/organogram/)

2.9.3 Chapter Summary

This chapter presented the review and synthesis of relevant literature in order to discover and identify the key research issues related to improving e-Government implementation using organisational development. Additionally, discussed in this chapter were concepts of electronic government, such as its definition and types, e-Government in Africa and in Nigeria, comparative assessment of e-Government by regions, its trends and evolution. The researcher also reviewed existing literature relevant to e-Government implementation, such as the global E-government index, maturity models and implementation processes. However, studies such as Khan et al. (2011) have revealed that there is a relative lack of research regarding the potential for organisational development to improve e-government services in developing nations.

As Nigeria is listed among developing nations (UN E-Government Knowledgebase, 2024), this study presents an excellent chance to contribute to filling this knowledge gap and help to solve organisational development problems impacting e-government services in Nigeria, particularly as the primary goal of e-government lies in transformation and social change rather than IT

Initiatives. More attention needs to be paid to organisational changes rather than application developments or technicalities. In the next chapter, the researcher presents the theoretical framework.

CHAPTER THREE

THEORETICAL FRAMEWORK

3.1 Introduction

The theoretical framework is the foundation that underpins a research study's theory. The theoretical framework elucidates the idea that accounts for the existence of the research problem being examined (Abend, 2008). Theories serve as a foundational framework for comprehending and analysing research across several disciplines, including natural, pure, and social sciences, and are essential for elucidating phenomena. Theories are developed to elucidate, forecast, and comprehend occurrences, often aiming to contest and expand upon established knowledge, constrained by crucial confining assumptions. Theories offer simplified elucidations of the complexities inherent in reality. It both directs and closes the study while simultaneously interpreting the results and providing structure, nuance, and aesthetic appeal to the subject matter from inception to conclusion.

However, theory is distinct from data, facts, typologies, taxonomies, or empirical results; it functions at a conceptual level and is grounded in logic rather than observation. Data, facts, and discoveries function at the empirical or observational level. A theory establishes a framework for forecasting and can yield novel or prospective research. It facilitates the execution of high-caliber research, which is seldom achievable in its absence. All types of research possess a theoretical foundation from the outset of their birth for investigations across many subjects. Theory is crucial in both quantitative and qualitative research and pertinent at all phases of study (Abend, 2008).

A universally agreed definition for the term 'theory' is lacking (Presthus & Munkvold, 2016). A theory has various components, which may be concepts or constructs, utilised to identify the fundamental elements of the event under investigation. The second aspect pertains to the

interconnections among the various components (concepts and structures), encompassing an elucidation of the "how" and "why" underlying such links. The generalisation of the idea is impeded by temporal and environmental constraints. The following is a description of the theory by some writers:

1	It is a set of claims, both oral and symbolic, that determines what variables are essential for what reasons, explains the way they are linked and why, and indicates the criteria within which they should be connected or not related.	Whetten, 2002
2	A structure consisting of constructs and variables, whereby the constructs are associated with one another by propositions, and the factors are related to one another by hypotheses.	Whetten, 2002
3	Theory is about the relationships between phenomena; it's a tale about why things like acts, events, and structures happen. The importance of the nature of causal linkages, including the determination of what occurs first and the order in which such events take place, is emphasised by theory.	Corley & Gioia, 2011
4	A theory is a description of conceptions and their interconnections that explains how and/or why a phenomenon takes place.	Corley & Gioia 2011

Table 3.1: Definitions of theory emphasising linkages and constraints

Theory is essential in research. Theory offers elucidation, comprehension, and significance to research. Theory aids in forecasting facts and identifying unexamined study domains. Research devoid of theory is less effective in elucidating the relationships among qualities, variables, or data. It initially articulates the rationale and methodology underlying the phenomenon in question within any study context. It elucidates and expands understanding of a phenomenon. Conversely, theory and research collectively establish the groundwork for practice. Theory connects the abstract and the tangible, leading to practice that is pertinent and oriented towards research application. (Researchomatic, 2014)

3.2 The Socio-technical Theory

Origins

The socio-technical theory emerged in the 1950s at the Tavistock Institute in London, stemming from industry-focused action research on coal mining and labour studies in Britain, spearheaded by Trist and Bamforth and subsequently developed by Emery (2016). It is constructed on a foundation of open systems. The theory proposed a "new paradigm" that challenged the prevailing technological imperative, advocating for a perspective that regarded individuals as more than mere extensions of machines. The suggested socio-technical paradigm shifted from viewing individuals as expendable to recognising them as a "resource to be developed," fostering collaboration, commitment, and a risk-taking culture, in contrast to competition, alienation, and low risk-taking (Clegg, 2000; Baxter & Sommerville, 2011).

Clegg (2000) defines the socio-technical approach as a perspective that highlights the interconnectedness of the social and technological subsystems within an organisation and their relationship to the external environment in which the organisation functions. The socio-technical system approach asserts that organisations consist of individuals who create products or services through technology, with each influencing the functionality and suitability of the technology, as well as the behaviours of its operators. This definition encompasses the value-added concept, wherein the products and services generated are esteemed by customers, who constitute the organisation's external environment (Griffith & Dougherty, 2001). Baxter and Sommerville (2011) assert that socio-technical research focuses on the reciprocal advantages obtained from the convergence of social and technical components. This junction highlights a mutual influence between humans and machines, wherein a process of dual shaping of social and technical systems transpires. The socio-technical method delineates the social and technical dimensions, referred to as subsystems that constitute a system of interest or a bigger system, identified as a suprasystem.

The idea asserts that the efficacy of the socio-technical system results from the interconnections among various subsystems. Socio-technical theory arose as a counter to prevailing technocratic models that were technologically deterministic and disregarded human aspects (Clegg, 2000; Emery, 2016). These models were deemed limiting due to their neglect of the social dimensions inside a system, especially regarding the interaction between the social and technical subsystems. The socio-technical approach was proposed to recognise the importance of societal factors in the design, redesign, and interventions impacting a system, where each subsystem aims to "achieve its objectives, utilising its resources, while maintaining an interdependent relationship with other subsystems" (Bauer & Herder, 2009). Design activities were initially conducted within the framework of a primary work system or organisational unit, serving as the principal units of analysis (Clegg, 2000). Early socio-technical studies also acknowledged other units of analysis beyond the basic work system or organisational border, recognising the macrosocial as a crucial unit of analysis (Baxter & Sommerville, 2011).

Initial support for socio-technical theory was lacklustre, and it was not until the 1980s that a transition from the prevailing “technocratic and bureaucratic mode” became evident (Clegg, 2000). This change was advocated in foundational research on social analyses within the technology domain (Baxter & Sommerville, 2011: p. 6), which asserted that deviation from the "technical determinist" perspective was essential for investigating technologies. Baxter and Sommerville's seminal study emphasised the significance of prospective and speculative analyses in evaluating the ramifications of emerging technologies, considering "the capabilities, potential benefits, and potential harms of new technical developments." They concluded that substantive analyses of implications must integrate social and economic factors, thus eschewing exclusive dependence on technical aspects (Baxter & Sommerville, 2011). Clegg (2000) reiterated that the prevailing technological imperative of the eighties could be contravened with beneficial economic and human outcomes, advocating for an optimal alignment between the

demands of social and technical systems. Bijker, Hughes, and Pinch (2012) asserted that integration is essential, stating that “all stable ensembles are bound together as much by the technical as by the social,” and so should be seen as a singular entity with “intimate social and technical links.” Since its inception, socio-technical theory has branched into other domains of application.

3.3 Foundations of the Socio-technical theory

Socio-technical theory is grounded in general systems theory and open systems theory (Baxter & Sommerville, 2011). General systems theory (GST), or "systems theory," posits that complex systems exhibit fundamental organising principles, regardless of their functions. General systems theory emphasises the architecture of systems rather than their functions. It also emphasises the entirety of an entity rather than merely the characteristics of its components or elements, underscoring the interrelations and organisation of the components that unify them into a cohesive whole. General systems theory posits that identical notions and principles of organisation are foundational throughout various disciplines, including biology, chemistry, physics, sociology, management, and psychotherapy. It also establishes a foundation for their integration (Mingers & White, 2010). The General System Theory is alternatively referred to as the theory of open systems, systems model, and family systems theory (Mingers & White, 2010).

An open system, as contrasted to a closed system, is characterised by the flow ("import" and "export") and/or interaction between its components and the environment, leading to the alteration or evolution of system components (Mingers & White, 2010). Thus, socio-technical systems derive fundamental assumptions, concepts, and attributes from these foundational theories. These hereditary components encompass notions pertinent to responsiveness to environmental influences and the fundamental idea of "equifinality" in attaining a stable state (Baxter & Sommerville, 2011; Herbst, 2014). The open systems perspective recognises that a

system's success and survival are influenced by its interactions with the environment, as well as its evolution and adaptability to changing conditions. This indicates that external influences will affect the system's behaviour (Mumford, 2003), necessitating an understanding of the interplay among psychological, economic, technical, cultural, and political dimensions to address complex issues (Mumford, 2003).

The use of open systems thinking within the socio-technical framework fosters the simultaneous evaluation of social and technological components, as well as a knowledge of "current and future environmental demands" (Clegg, 2000). Equifinality refers to a spectrum of potential beginning conditions that facilitate the attainment of a steady state or equilibrium (Trist et al., 2016). Equifinality is a significant concept in the operationalisation of the theory via information systems design, as many designs may effectively attain a stable socio-technical system state. A steady state denotes an open system's capacity to attain a time-dependent equilibrium, in which the system and its components remain unchanged (Mingers & White, 2010).

3.4 Social and Technical Subsystems.

Socio-technical theory is founded on general systems theory and open systems theory (Baxter & Sommerville, 2011). General systems theory (GST), or "systems theory," posits that complex systems exhibit certain fundamental organising principles, irrespective of their specific nature. The socio-technical approach differentiates several dimensions of a system via the concept of a subsystem. Preliminary research delineated the dimensions of a socio-technical system as socio-psychological, about human elements; technological, concerning artefacts; and economic, reflecting the efficacy of interactions between human and technological resources (Trist et al., 2016). Current conceptualisations focus on three main dimensions or subsystems: social, technical, and environmental. The social subsystem broadly denotes the human components or factors inside a socio-technical system. The social subsystem within an

organisation consists of the individuals who form the organisation, along with the relationships, values, structure, work-related components, and affiliations established by its members (Clegg, 2000; Baxter & Sommerville, 2011; Emery, 2016).

The technical subsystem encompasses the physical and material flows within a transformation process, alongside the tasks, control, and maintenance functions. In an organisational context, it signifies the tools, techniques, skills, and devices necessary for employees to achieve organisational objectives and tasks (Clegg, 2000; Baxter & Sommerville, 2011; Emery, 2016). The subsystems perform collectively inside a certain environmental subsystem, which affects their operation and interactions. The environmental subsystem is characterised as the context, surroundings, and conditions in which the open socio-technical system functions, encompassing both the internal and external environments (Clegg, 2000; Baxter & Sommerville, 2011; Emery, 2016). General systems theory emphasises the architecture of systems rather than their functions. General systems theory emphasises the entirety of an item rather than only its constituent qualities or pieces.

General systems theory underscores the interrelations and organisation of the components that unify them into a cohesive whole. General systems theory posits that identical notions and principles of organisation are foundational throughout various disciplines, including biology, chemistry, physics, sociology, management, and psychotherapy. General systems theory offers a foundation for their integration (Mingers & White, 2010). The General System Theory is alternatively referred to as the theory of open systems, systems model, and family systems theory (Mingers & White, 2010). An open system, as contrasted to a closed system, is characterised by the flow ("import" and "export") and/or interaction between its components and the environment, leading to alterations or evolution of the system's components (Mingers & White, 2010). Thus, socio-technical systems derive fundamental assumptions, concepts, and attributes from these foundational theories.

The inherited aspects encompass notions pertinent to environmental responsiveness and the fundamental idea of "equifinality" in attaining a stable state (Baxter & Sommerville, 2011; Herbst, 2014). The open systems perspective recognises that a system's success and survival are influenced by its interactions with the environment, as well as its evolution and adaptability to changing conditions. This indicates that external influences will affect the system's behaviour (Mumford, 2003), necessitating an understanding of the interplay among psychological, economic, technical, cultural, and political dimensions to address complex issues (Mumford, 2003). The use of open systems thinking within the socio-technical framework fosters the simultaneous evaluation of social and technological components, as well as a knowledge of "current and future environmental demands" (Clegg, 2000). Equifinality refers to a spectrum of potential beginning conditions that facilitate the attainment of a steady state or equilibrium (Trist et al., 2016).

So close is the relationship between the various aspects that the social and the psychological can be understood only in terms of the detailed engineering facts and of the way the technological system as a whole behaves in the environment of the underground situation (Baxter & Sommerville, 2011) The socio-technical perspectives of an organisation or work system consist of distinct yet interconnected social and technical subsystems. A work system serves as a primary unit or department within an organisation, which can be viewed and (re)designed as a socio-technical system composed of interacting subsystems, each containing subdimensions (Clegg, 2000; Baxter & Sommerville, 2011). In a work system, elements such as structure, personnel, technology, and tasks coexist and interact (Baxter & Sommerville, 2011).

This widely accepted depiction of a socio-technical system is based on the premise that the outputs of the work system arise from the collaborative interactions between the social and technical systems; therefore, integration is essential during the design or redesign process

(Baxter & Sommerville, 2011). Alternative representations of socio-technical subsystems emphasise delineating the attributes of the separate social and technical subsystems concerning origins, control, and contextuality, among other factors (Table 3.2). They observe that the social and technical dimensions "point in different directions" and assert that "the strength of socio-technical systems arises from the integration of these two distinct phenomena" (Fischer & Herrmann, 2011, p. 4).

	Technical Systems	**Social Systems**
Origins	Are a product of human activity; they can be designed from the outside.	Are the results of evolution cannot be designed but only influenced from outside
Control	Are designed to be controllable with respect to pre-specified performance parameters.	Always have the potential to challenge control.
Situatedness	Low: pre-programmed learning and interaction with the environment.	High: includes the potential of improvisation and non-anticipatable adaptation of behaviour patterns.
Changes	Are either pre-programmed (so that they can be simulated by another technical system) or a result of intervention from outside (so that a new version is established).	Evolutionary: gradual accumulation of small, incremental changes, which can lead to emergent changes (which, however, are not anticipatable). There is no social system that can simulate the changes of another social system.
Contingency	Are designed to avoid contingency; the more mature a version is, the less its reactions appear as contingent.	The potential for change and evolution is based on contingency.
Criteria	Correctness, reliability, unexpected, and unsolicited events are interpreted as a malfunction.	Personal interest, motivation; in the case of unsolicited events, intentional malpractice may be the case
Modelling	Can be modelled by describing how input is processed and leads to a certain output.	Models can only approximate the real behaviour and have to be continuously adapted.
Modus of Development	Is produced or programmed from outside.	Developed by evolution that is triggered by communicative interaction.

Table 3.2: Representations of socio-technical subsystems (Adopted from Fischer and Herrmann 2011)

3.5 Principles of Socio-technical Theory

There are two principal tenets of socio-technical theory: the first pertains to the interactions between social and technical components that determine a system's success, and the second

addresses the "goodness of fit" between an organisation's social and technical factors (Clegg, 2000), culminating in an optimal state for the suprasystem. This approach was officially designated as joint optimisation, which fundamentally denotes the equal consideration of technical and human factors during the socio-technical design or redesign process (Baxter & Sommerville, 2011; Emery, 2016) and involves attaining an optimal alignment between the demands of the social and technical systems (Clegg, 2000). Despite the existence of diverse interpretations of this notion (Mumford, 2003), joint optimisation pertains to a process aimed at achieving an optimal state for the entire system, rather than favouring or enhancing a single subsystem.

Inherent in the socio-technical approach is the notion that the attainment of optimum conditions in any one dimension does not necessarily result in a set of conditions optimum for the system as a whole. If the structures of the various dimensions are not consistent, interference will occur, leading to a state of disequilibrium, so that achievement of the overall goal will, to some degree, be endangered and, in the limit, made impossible. The optimisation of the whole tends to require a less than optimum state for each separate dimension. Trist et al. (2016)

The notion of optimisation was subsequently refined to include responsiveness to environmental forces in the quest for optimum within an organisational context (Clegg, 2000). This is primarily attributed to the open systems foundation (Mingers & White, 2010), which necessitates that organisations remain adaptable to environmental fluctuations, further suggesting that to prevent "organisational obsolescence," joint optimisation must not be regarded as a static pursuit (Clegg, 2000). Consequently, socio-technical design for collaborative optimisation is inherently a dynamic and often shifting process. Another crucial aspect is that optimisation should be a collaborative, rather than an isolated, endeavour inside

the socio-technical system to promote the most advantageous conclusion for the system in question.

The technical and social systems are independent of each other in the sense that the former follows the laws of the natural sciences while the latter follows the laws of the human sciences and is a purposeful system. Yet they are correlative in that one requires the other for the transformation of an input into an output, which comprises the functional task of a work system. Their relationship represents a coupling of dissimilars which can only be jointly optimised. Attempts to optimise either the technical or social system alone will result in the suboptimisation of the socio-technical whole. Clegg (2000)

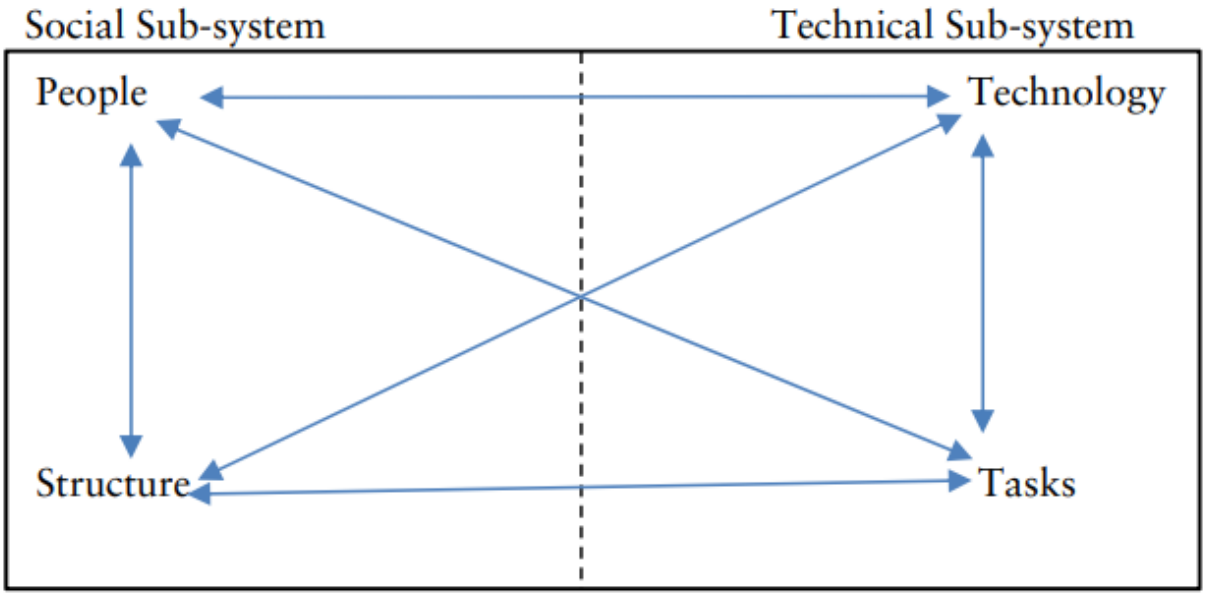


Figure 3.1: A representation of an organisational work system (Adapted from Baxter and Sommerville, 2011)

The ideas of socio-technical theory, particularly the notion of joint optimisation, are implemented via socio-technical design, redesign, or alternative socio-technical interventions, contingent upon the unit of analysis for each project. Socio-technical design refers to the design or redesign of information systems facilitated by stakeholder engagement and the integration of interactions between individuals and new technology (Clegg, 2000). Clegg (2000) further asserts that socio-technical interventions must not presuppose technology as a constant to which

society should adapt. Design and/or redesign processes should ascertain the appropriate configurations, alternatives, and interactions between human and technical components to establish and attain a stable, optimal state.

Socio-technical studies conducted in the mid-2000s delineate significant requirements in this context. Baxter and Sommerville (2011) examine the role of control mechanisms in an open environment and their purpose in sustaining a "steady state," utilising pertinent concepts such as cybernetics, communication theory, and open systems theory. Baxter and Sommerville (2011) describe the open environment as the “variable environment,” which requires a unique methodology for designing socio-technical systems. This approach emphasises the importance of organisational learning, the incorporation of a “non-disciplinary” perspective, and the significance of recording a design sequence that begins with the social system (Baxter & Sommerville, 2011). Baxter and Sommerville (2011) assert that once the needs of the social organisation are delineated, it becomes feasible to reverse-engineer and conceptualise the necessary technology conditions and support systems.

Alternative methodologies for socio-technical design have been suggested, all of which advocate for a collaborative approach to problem-solving and attaining shared optimisation. Prolonged, patient, and intense cooperation has long been considered essential to socio-technical design (Clegg, 2000). Various principles-based and alternative design models/approaches have been presented in the operationalisation of socio-technical theory. Cherns (2006) proposed nine socio-technical design principles to function as a design checklist. The nine principles include compatibility, minimal critical specification, the socio-technical criterion, organism vs mechanism, boundary position, information flow, support congruence, design and human values, and incompletion. The principles are directed not exclusively at the socio-technical designer but also at persons within an organisation impacted by a redesign, as well as a professional in the field.

The principles were subsequently amended (Cherns, 2006) to encompass compatibility, minimal critical specification, variance control, information flow, power and authority, the multifunctional principle, support congruence, transitional organisation, and the incompletion of the Forth Bridge principle. The original checklist (Cherns, 2006) incorporated design and human values within the eighth principle; however, the new list excludes values, as they are deemed to underpin all principles (Cherns, 2006) and hence, cannot be delineated as a separate principle. Socio-technical design is defined by prominent academic Enid Mumford (2003) as offering a new worldview of what constitutes quality of working life and humanism at work. It facilitates organisational innovation by recommending the removal of many elite groups and substituting flatter hierarchies, multiskilling and group decision-making. It wants to replace tight controls, bureaucracy and stress with an organisation and technology that enhances human freedom, democracy and creativity.

Mumford's distinguished design methodology ETHICS, represents Effective Technical and Human Implementation of Computer-based Systems, serving as a model and philosophy that advocates for user engagement and participation as essential components throughout the socio-technical design process (Mumford, 2003). A 15-step method was originally established; however, streamlined iterations of ETHICS currently exist, including a six-stage model (Mumford, 2000: p. 13) with the following stages:

a) **Diagnosis of needs** - defining reasons and motivations for changing the current system, describing system boundaries, identifying core objectives/ purpose/ information needs/ tasks, gauging job satisfaction levels and efficiency, and determining the nature of future change
b) **Setting objectives** - establishing unambiguous objectives about efficiency, job satisfaction and future change that are desired in the new system;

c) **Identifying solutions** - recognising design alternatives, including socio-technical solutions, and partaking in discussion
d) **Choice and deployment of solution** - selecting and implementing a solution
e) **Follow-up evaluation** - evaluating the deployed solution;
f) **Reporting** - documenting theoretical and practical lessons.

Despite the differences among various representations of ETHICS, the fundamental principle is that ETHICS aims to equip non-technologists with the ability to govern or impact systems analysis and design. The approach accomplishes this by engaging people in the design processes and providing tools and procedures that facilitate an investigation of their wants and issues (Mumford, 2003)

Several other socio-technical design concepts and approaches are also available. Baxter and Sommerville (2011) advocate for a socio-technical design process in the realm of smart card innovation in Australia, comprising phases including systems exploration, systems analysis, initial design through joint optimisation, redesign and implementation, and iterative evolution and redesign. A different model proposed by Fischer and Herrmann (2011) serves as a meta-design framework that emphasises meta-design across meta, intermediate, and fundamental levels, enabling the ongoing adaptation and evolution of socio-technical systems within an environment, supported by participatory design processes. Davis et al. (2014) offer a hexagonal framework that represents socio-technical systems through six interrelated components: goals, people, processes/procedures, culture, technology, and buildings/infrastructure, all situated within an external environment.

Additionally, methodologies that integrate values into the design process have been suggested, including value-sensitive design (Friedman et al., 2013), privacy by design (Cavoukian, 2012), and democracy by design (Pitt et al., 2020), among others. Recently, various integrated co-design methodologies have surfaced in the literature. In the realm of biomedical engineering, a

socio-technical, ethically aligned co-design methodology has been articulated and integrated into an established engineering design process (Robertson et al., 2019). Baxter and Somerville (2011) identify and review various design techniques that incorporate socio-technical concepts, including soft systems methodology, human-centred design, contextual design, and cognitive systems engineering, among others.

3.6 Evolution of the Socio-technical Theory

Socio-technical theory has developed from the aforementioned traditional concepts and principles, particularly in reaction to changing organisational and technological circumstances, while maintaining a coherent foundational philosophy (Davis et al., 2014). In the late 1980s and early 1990s, socio-technical theory garnered significantly less attention due to the emergence of alternative methodologies, including lean and business process re-engineering (Baxter & Sommerville, 2011). Regardless of its relative popularity, the evolution of socio-technical theory has mirrored the advent of technologies and their associated industrial applications during particular timeframes. The emphasis has shifted from an early focus on heavy industry…"to a gradual broadening of enquiry to advanced manufacturing technologies…through to office-based work and services (and to) the design of large-scale IT projects." (Davies et al., 2014, p.4)

Mumford (2006) presented a comprehensive analysis of theoretical advancements and subsequently outlined the progression of socio-technical notions, encompassing multinational endeavours in the socio-technical domain, whereas Davis et al. (2014) subsequently provided an overview of the evolving emphasis in socio-technical thought. The progression of socio-technical theory can also be seen through the lens of socio-technical designs and interventions. Over time, socio-technical research has incorporated several views, diverging from its initial organisational emphasis. Morris (2009) asserts that the literature on socio-technical systems in the domains of Information Systems and ICT can be categorised according to numerous

predominant views, including, but not limited to, social sciences, organisational sciences, engineering, and complex systems viewpoints.

Each perspective influences the methodology employed in socio-technical research. Morris (2009) analyses socio-technical systems studies through these four viewpoints, highlighting the significant considerations within each. Moreover, emphasis has been placed on the dynamics of socio-technical systems concerning transitions, transformations, and reproduction within the framework of sustainability, employing a Multi-Level Perspective (MLP) (Geels, 2005; McKelvey, 2006; Geels, 2010; Verbong & Geels, 2010). A burgeoning domain is socio-technical design for Public Interest Technology (PIT). This body of socio-technical research provides a transdisciplinary viewpoint, implementing socio-technical principles within an ecosystem framework and presenting a structure that records technology design factors (including stages, context, environment, and design activities), as well as the technology application context, the explicit acknowledgement of values, and the positioning of diverse methodologies that contribute to the design of PIT (Abbas, Pitt & Michael, 2021).

3.7 Applications of the socio-technical theory

Socio-technical theory has been utilised across various fields, particularly in information systems, organisational studies, business management, and engineering (Morris, 2009), employing a variety of qualitative and quantitative methods as well as socio-technical design frameworks. Moreover, socio-technical theory has been utilised across several settings and levels (Griffith & Dougherty, 2001; Geels, 2005), spanning from micro to macro dimensions. It may be implemented in work systems inside an organisation, throughout the entire organisation, and extending to "macrosocial systems" operating at the societal level, such as industrial sectors (Clegg, 2000). The methodology is not only limited to organisations but also includes other "socio-technical phenomena" (Clegg, 2000), although socio-technical theory has conventionally concentrated on the work system, organisational, or departmental level, aiming

to attain economic, work-related, and other results. Clegg (2000) recorded the initial empirical implementations of socio-technical theory.

The implementation of the socio-technical method in work system design has been extensively recorded (Baxter & Sommerville, 2011; Alter, 2013; Eason & Waterson, 2013). Recent investigations and implementations of the socio-technical approach have assessed modern socio-technical frameworks to accommodate technological advancements (Bednar & Welch, 2020) and to methodically examine socio-technical dimensions, including technology, task, actor, and structure, to pinpoint research deficiencies in emerging application domains such as platforms and the platform economy (Kapoor et al., 2021). The transfer of socio-technical theory across disciplines has led to inconsistent applications of the original idea. In certain fields, it has been utilised to characterise complex systems broadly, whereas in other areas, socio-technical theory has been implemented and operationalised in various empirical investigations.

3.8 Limitations of the socio-technical theory

From a theoretical and philosophical standpoint, the socio-technical approach was promising in its divergence from technological determinism and its focus on the concurrent optimisation of social and technical subsystems. The socio-technical approach ideally results in mutually advantageous solutions. Critics contend that the idea initially did not fulfil its potential. Clegg (2000), in his examination of application, asserts that socio-technical theory contains intrinsic problems, one of which pertains to the concept of collaborative optimisation. The author interrogates whether prior foundational socio-technical studies successfully attained jointly optimised socio-technical systems, finding that activities favoured the social system (Clegg, 2000).

This led to the technical system being relatively neglected, since it had "not been modified in any of these instances as part of a socio-technical intervention" (Clegg, 2000: p463). Baxter and Sommerville (2011) emphasised these concerns in an article that examined early socio-technical studies from both theoretical and empirical perspectives. The authors examine the progression of the theory and over 130 associated experiments, concluding that only a limited number of trials involved the reengineering of technology. The primary emphasis in the majority of the research was on "restructuring the social system around a pre-existing technology to achieve near joint optimisation" (Baxter & Sommerville, 2011). It was clarified that optimisation does not arise from achieving a compatible alignment between the social and technological subsystems, but instead from autonomously modifying the social subsystem to facilitate technology (Baxter & Sommerville, 2011). Consequently, technology was regarded as a constant, leading Baxter and Sommerville (2011) to assert that increased focus on technological advancement was necessary within socio-technical studies. In this regard, Coiera (2007) warns against an excessively critical stance towards technology, as it may foster an "anti-technology" viewpoint, thus leading to a restricted implementation of fundamental socio-technical concepts. In relation to socio-technical design, additional vulnerabilities have been revealed using a critical information systems perspective (Stahl, 2007).

Mumford (2003) has documented the constraints concerning implementation, power, and involvement associated with socio-technical design, particularly the ETHICS approach. Although stakeholder participation and consultation are deemed essential for the success of socio-technical design and the attainment of joint optimisation, they may also produce adverse effects when consensus is unattainable (Baxter & Sommerville, 2011). This can lead to an inability to harmonise conflicting stakeholder interests and exacerbate the divide among stakeholders and their disparate priorities. Moreover, the limitations of Bostrom and Heinen's foundational research (1977a; 1977b) have been recorded, with initial studies asserting that

specific assertions, such as the necessity to modify designers' perceptions of an organisation (considered the principal cause of Management Information System failures), were unfounded (Clegg, 2000).

Early critiques also propose the Infological approach as an alternative socio-technical framing to address these issues of perspective, advocating instead for user empowerment through inclusion in design initiatives in addition to the need for new types of analysts or designers to support socio-technical design (Baxter & Sommerville, 2011). Recently, there has been a demand for modern socio-technical analysis due to advancements in technology, particularly for ecological, economic, and socio-technical sustainability (Bednar & Welch, 2020). Additional research, including that of Davis et al. (2014), has articulated the necessity for further elaboration of the socio-technical approach, emphasising that scholars "engaged in socio-technical thinking need to extend their conceptualisations of 'systems', apply the core ideas to new domains beyond the traditional emphasis on new technologies, and concurrently engage in predictive endeavors."

3.9 Application of socio-technical theory in this thesis

This thesis aims to improve the implementation of e-government services in Nigeria from an organisational development perspective. The implementation of e-government services is undertaken within a public institution, which is viewed as a socio-technical system (Baxter & Sommerville, 2011). The socio-technical theory posits that optimising a technical sub-system to the detriment of a social sub-system, or vice versa, results in sub-optimal outcomes (Clegg, 2000). This situation "tends to augment not only the quantity of unpredictable, 'un-designed', non-linear relationships but also those relationships that are detrimental to the system's performance" (Walker et al., 2008). Joint optimisation of both subsystems is necessary.

The implementation of e-government services might be arduous due to the distinct characteristics of the public sector. The qualities encompass legislation, regulations, a heightened desire for responsibility, and predetermined budgets (Gil-Garcia et al., 2018), along with a diverse array of constituent groups, occasionally possessing conflicting interests (Mergel et al., 2025). Moreover, the execution of e-government services necessitates modifications in governmental processes and organisational frameworks (Hughes, Scott & Golden, 2006; Kennedy, Coughlan & Kelleher, 2010).

There is a clear necessity to tackle the issues of e-government deployment in developing nations, where organisational development remains crucial for enhancing transactional services. Resolving organisational challenges in the public sector will facilitate more efficient economic resource utilisation, rather than incurring expenses on the adoption of legacy systems that are more expensive to replace in the future. To resolve the fundamental organisational issues, it is essential to concentrate on the necessary modifications within the core organisational elements, specifically the information systems, which include tasks and technology forming the 'technical sub-system,' as well as the personnel and structures that constitute the 'social sub-system' within organisations. As e-government advances in developing nations, an optimal alignment among sub-systems will prevent the emergence of legacy e-government systems that are expensive to replace, thereby enabling resource-constrained countries to utilise their limited resources more effectively for the implementation of e-government services.

This thesis holds the view that addressing organisational issues impacting these socio-technical sub-systems must be prioritised to prevent the allocation of resources to superfluous elements, as resources are perpetually limited in emerging nations. Furthermore, utilising this theoretical framework to solve these difficulties seems advantageous as it may facilitate, to a degree, the adoption and process of organisational development. Moreover, concerning the facilitation of

socio-technical modifications and their institutionalisation for enhanced execution of e-government services, public sector e-government practitioners will now possess the capability to empirically engage and sway decision-makers and colleagues regarding the necessary organisational development processes essential for optimising e-government implementation in Nigeria.

In light of these factors, the thesis used a socio-technical perspective. This perspective was used primarily for analytical purposes to examine and comprehend the organisational development challenges associated with e-government, including both potential and actual obstacles to the adoption of e-government services in Nigeria as a developing nation. Nigeria is a developing nation classified as lower-middle income by the World Bank. This thesis proposes answers to concerns within a socio-technical framework by developing a model to aid practitioners in institutionalising changes and resolving these challenges. This thesis identifies the socio-technical system (STS) as comprising four primary components: people, processes, structures, and technology, as delineated in the literature (Baxter & Sommerville, 2011).

In this study, improving e-government service implementation in Nigeria was examined from the standpoint of organisational development using the socio-technical theory. In addition, rather than serving as a methodological framework for design, the socio-technical theory was employed more as a theoretical framework for investigating phenomena in the two selected e-government initiatives that served as the case projects for this study:

a) The National E-Government Master Plan
b) The E-Government Capacity Building Program

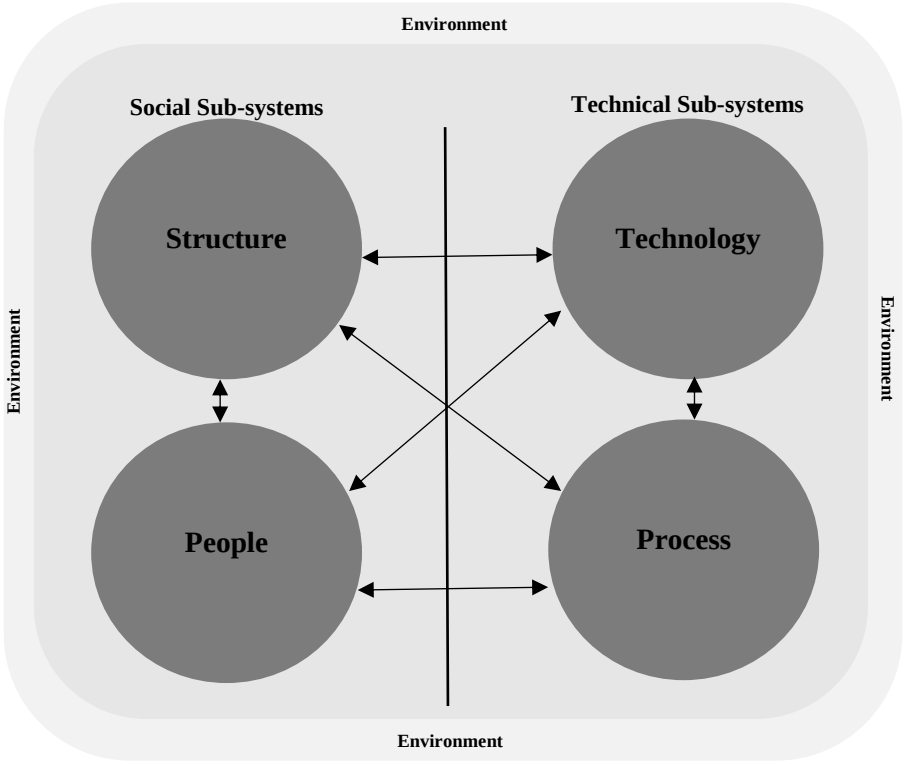


Figure 3.2: A representation of a socio-technical system in the implementation of e-government services (Adapted Baxter & Sommerville, 2011).

The socio-technical system in this thesis consists of the social sub-systems and technical sub-systems. The sub-systems and their underlying components are:

a) The Social Sub-System

i. **People.** These individuals are essential components of organisations. Human attributes encompass attitudes, talents, values, beliefs, and interpersonal relationships (Baxter & Sommerville, 2011). This thesis addresses the human factors concerning government employees engaged in the execution of e-government services.

ii. **Structure.** Organisational structure is viewed as a foundation on which operating procedures rest (Jacobides, 2007). It can also be viewed as a framework for

defining the relations between people's jobs and operating processes to achieve envisaged goals (Ahmady, 2016). Organisational structure is seen as a framework directing the allocation of tasks, coordination, and supervision toward achieving organisational goals (Davis et al., 2014). Comprehensively, organisational structure is viewed as a multidimensional construct that consists of the formalisation of procedures, standardisation, and specialisation of work in units, centralisation/decentralisation of control, and hierarchical job configuration in an organisation (Davis et al., 2014). In this thesis, the regulatory framework, policies, procedures, rules, and regulations are considered part of the structure.

b) The Technical Sub-System

i. **Technology.** Technology is characterised as "the application of scientific knowledge that facilitates the manipulation of human environments to fulfil human desires" (Haines & Sharif, 2006, p.107).

ii. **Processes.** A process is characterised as "a structured, measured series of activities intended to generate a specific output for a designated customer or market" (Dumas et al., 2018, p.3). Tasks are seen as fundamental components of a business process (Weske, 2019). A process utilises resources (Harmon, 2019) and may possess a defined beginning and conclusion or operate continuously (van der Aalst, 2016). Processes can be classified into three categories of organisational processes:

- **The main processes.** These are core, primary or operational processes to achieve the goals of an organisation.
- **Management processes.** These are processes carried out by the management to achieve objectives.

- **Support processes.** These are processes implemented to keep an organisation going (Dumas et al., 2018; Weske, 2019).

In this thesis, tasks or activities include those carried out by the identified department and agency, designing, implementing, and evaluating e-government services. In this way, both management and operational processes undertaken or lacking in the implementation of e-government services comprise part of the technical sub-system.

These four aspects (i.e., people, structure, technology and processes) comprise the socio-technical system in this entire thesis. However, it is worth noting that the social-technical system considered in this thesis, as indicated in Table 3.3, is embedded in an environment mainly consisting of political, financial, socio-economic factors, as well as factors of stakeholders external to organisations implementing and using the e-government technical systems (e.g., citizen needs, values, and expectations). In this thesis, it is recognised that those environmental factors can influence the outcome of the implementation of modern technologies in public sector settings. Therefore, the socio-technical system of this thesis is limited to organisational development issues, and these environmental factors are out of scope.

Each of the case studies in this thesis focused only on the social subsystems to address and the e-government cases under investigation. Table 3.3 depicts the main socio-technical aspects of focus in studies of this thesis.

Cases	Social Aspects	Technical Aspect
a) The National E-Government Master Plan b) The E-Government Capacity Building Program	a) Structure b) People	a) Processes

Table 3.3: The socio-technical aspects of focus in studies of this thesis

3.9.1 Chapter Summary

This chapter examined the framework that can hold or support a theory of a research study and described the theory that is best suited to the study by explaining the research problem. Furthermore, it detailed why the researcher adopted the socio-technical theory and an analysis of the theory in providing context for both technological and social subsystems of E-government implementation.

The next chapter delves into the rationale for adopting the research methodology used for addressing these research problems.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1. Overview of the Research Methodology

According to the Industrial Research Institute, research methodology is a process for deriving findings from a specific issue or an articulated topic, commonly known as the research problem (Blumberg, Cooper & Schindler, 2014). Also, Kumar (2018) describes research as a methodical endeavour aimed at acquiring new information. Research technique is more than just data collection; it involves providing solutions to research questions and outlining the execution of the investigation. Consequently, the researcher must employ certain criteria to investigate or provide answers to a particular study topic. This technique primarily aims to identify issues associated with the implementation of e-Government services as well as how the study's aim, objectives, and questions directing the inquiry will be addressed. Research methodology is the method selected for systematically solving a research problem. It may be understood as the study of how scientific research is conducted. In it, we examine the various steps that researchers typically take when examining their research problem, as well as the reasoning behind them. (Kothari, 2004, p 3).

4.2 Research Philosophy

Research philosophy can be described as a set of beliefs encompassing the issues that concern the nature of reality under investigation (Bryman, 2012). Research philosophy helps to provide a comprehension of the ideals and presumptions underlying a particular study. The assumption made in research philosophy, according to Kaur (2006), helps to justify how the study will be approached. However, research philosophies may be dependent upon the aim of the study and the optimum means through which it can be achieved (Goddard & Melville, 2004). Thus, the

understanding of the research philosophy to be adopted helps to elucidate the assumptions embedded in the study, and how this will fit with the methodology to be used. It also shows the relationship between the theory and data, which helps in framing the research design (Easterby-Smith, Thorpe & Lowe, 2002). Besides, all research, either qualitative or quantitative, banks on some underlying assumptions and characteristics of what really constitutes a 'valid' research or which methodology is most proper (Myers & Avison, 2002; Ebrahim & Irani, 2005).

In recent years, scholars have expanded on these foundational ideas, exploring their implications for contemporary research practices. Creswell and Poth (2018) provide a comprehensive overview of philosophical frameworks and their application in qualitative, quantitative, and mixed-methods research. These philosophical assumptions include positivism, interpretivism, realism, pragmatism, subjectivism, and objectivism (Saunders & Thornhill, 2009). The commonest assumptions of all are the pragmatist, interpretivist and positivist paradigms, although they may sometimes carry alternative labels like experimentalist or objectivist as against phenomenological or subjectivist (Saunders & Thornhill, 2009). These paradigms are usually differentiated based on their distinct opinions of reality, what it is and how it should be examined (Lodico, Spaulding & Vogile, 2006).

Philosophy	**Description**	**Characteristics**	**References**
Constructivism/Interpretivism	Interpretive research tries to understand a phenomenon by accessing the meanings that people or participants assign to it.	It enhances a deeper understanding of a phenomenal structure within contextual and cultural situations. It tends toward producing qualitative data. It is concerned with developing theories. Location is natural. The process of investigation can affect the research.	(Myers, 2013; Walsham, 2006).
Pragmatism	Pragmatism applies practical techniques to	It uses various techniques either concurrently or at	Creswell, (2009)

	engage various methods to gather and interpret data data	different times to collect data. It is motivated by problems encountered by people and identifies how best to proffer solutions. It has the benefit of enabling triangulations.	
Positivism	Positivism is a type of research paradigm that holds that reality to be given objectively and can be described by quantifiable properties which do not depend on the investigator and their instruments.	It is concerned with hypothesis testing, measures quantifiable variables and formal propositions. Search to test the theory. It tends toward producing quantitative data. It draws inferences around a phenomenon. The data is detailed and exact. Location is artificial.	Straub, Boudrea & Gefen, (2004) Straub, Gefen & Boudrea, (2005).

Table 4.1: Basic Philosophical Assumptions used in an Information Systems Approach (Source: Mosud, Y.O., 2017)

4.2.1. Constructivism/Interpretivism in relation to the study

Qualitative research can be classified as positivist, interpretivist/constructivist, and critical based on epistemological assumptions on knowledge acquisition (Myers & Avison, 2002; Donmoyer, 2008). Interpretive research aims to achieve a thorough understanding of naturally occurring occurrences by uncovering the fundamental patterns of significance that influence widely accepted information (Putnam & Banghart, 2017). Research with an interpretive perspective posits that reality is accessed through social constructions, such as language, consciousness, and shared meanings. This comprehension is derived from individuals' viewpoints and additional facts generated by them. This thesis adopted an interpretive epistemological perspective, wherein the subject of study—specifically, the implementation of E-Government services in Nigeria and their contextual integration—is analysed through interviews, focus group discussions with participants involved in the implementation, and contextual data about such implementation. The persons in agencies implementing E-

Government services in Nigeria and the products produced by them are chiefly accountable for my understanding of the phenomenon.

4.2.2. Epistemology of the study

Epistemology pertains to knowledge that is deemed adequate and firmly established. It is concerned with how knowledge is generated and acquired. Examples of epistemological questions are, “What can be known?”, “How can we know?”, and “What are the conditions for acquiring existing knowledge?” (Eneanya, 2012). Epistemology is the investigative process of discovering truth and reality. From the perspective of the constructivist/interpretivist paradigm, reality is relative. The proposed study's epistemological dimension is crucial in determining a feasible research framework that considers study objectives, data collection methods, research sites, and data analysis and interpretation.

4.3 Research approach

The research approach is a methodical and systematic strategy employed for data gathering and analysis to get information from raw data (Jankowicz, 2005). Karokola (2012) asserts that a suitable research methodology can facilitate knowledge advancement. Research approaches can be classified into three primary categories: quantitative, qualitative, and mixed methods. The selection of methodology among the three categories of approaches depends on the study's goals and objectives to be achieved.

4.3.1 Quantitative approach

This method, as indicated by its name, pertains to quantitative data (Flick, 2011). The quantitative technique is most effectively utilised in scenarios involving a large number of respondents and when rapid data processing is necessary. A quantitative approach is generally regarded as having emerged from the study of natural events, hence embodying objective and scientific methodologies. Furthermore, Johnson and Christensen (2008) assert that evidence

produced by quantitative methods is deductive, unequivocal, and reliable, owing to the focus on hypothesis testing and theoretical frameworks. Researchers frequently utilise ordinal quantitative approaches for data collection using questionnaires, as these methods facilitate the ranking of variables or factors influencing the phenomenon. (McClure, 2001; Boeije, 2010).

4.3.2 Mixed method approach

A mixed-methods research is an established third methodological approach that has been used for more than twenty years to complement the existing qualitative and quantitative research approaches (Teddle & Tashakkori, 2009). The combination of quantitative and qualitative research approaches is referred to as mixed methods (Tashakkori & Teddle, 2008; Creswell, 2009), multi–strategy (Bryman, 2012) and multi-methods (Fetters, 2020). Mixed method enables corroboration or confirmation of the combined approaches through triangulation, and it is also used to develop a richer data analysis.

4.3.3 Qualitative Approach

The qualitative technique emphasises the researcher's interpretation of data to draw inferences regarding behaviour, attitudes, and perspectives (Kothari, 2004). Qualitative research methods are tools for studying social or organisational behaviour that produce data unattainable through statistics or other quantitative approaches (Naoum, 2008). Its meaning and experiences are inherently subjective and are consistently expressed verbally. As it became evident that conventional quantitative data collection techniques could not adequately convey human feelings and emotions, qualitative data collection approaches evolved (Monette, Gullivan, & DeJong, 2010)

Qualitative research is prevalent throughout numerous disciplines, employing diverse approaches, methodologies, and procedures. Commonly employed qualitative methodologies include action research, case study, ethnography, and grounded theory (Jabar, Sidi, Selamat,

Ghani, & Ibrahim, 2009). McNiff, J. (2017) posits that action research is an inquiry approach enabling researchers to evaluate their work by asking, "What am I doing?" Is there any aspect that necessitates enhancement? What would be the implications or consequences if that is the case? What actions can be implemented to improve it? It allows researchers to disseminate their practice reports, illustrating their efforts to enhance their methodologies, which involves reflecting on and acquiring improved techniques, as well as motivating others to pursue similar advancements.

These reports function as autonomous practical theories of practice, providing prospective learning opportunities for interested individuals. Conversely, grounded theory is a research methodology aimed at formulating theories based on systematically collected and analysed data (Jabar, Sidi, Selamat, Ghani, & Ibrahim, 2009). The case study method is a research approach enabling a researcher to perform an in-depth analysis of data within a specific context. The case study method often entails the selection of a limited geographical area or a small group of individuals as the primary subjects of analysis. Case studies fundamentally aim to analyse contemporary real-world phenomena through a comprehensive contextual examination of a limited number of occurrences or circumstances and their interrelations (Zainal, 2007).

4.3.4 Rationale for Adopting the Qualitative Approach

A qualitative research strategy involves utilising qualitative data in textual form rather than numerical representation to elucidate and comprehend a phenomenon (Myers, 2015). Garson (2001) asserts that a qualitative research methodology aims to achieve a comprehensive understanding of a phenomenon through techniques like narrative analysis and participant observation. A qualitative research technique was primarily established in the social sciences to enable researchers to examine cultural and social phenomena. Qualitative research encompasses ethnography, action research, and case study research, with data sources including

interviews, participant observation (fieldwork), researchers' impressions and reactions, as well as texts and documents (Khan & MacEachen, 2022). Scholars have recognised the preference for qualitative methodologies over quantitative ones, noting that the sole distinction between humans and their natural surroundings is the ability to communicate. This study method aids researchers in comprehending individuals, their cultures, and the social contexts in which they reside. Given the presented facts, the researcher asserts that a qualitative research method was the most appropriate approach for this study.

4.4 Research Strategy

Having identified the most suitable research approach for this study, the next step was to establish an appropriate research strategy as highlighted in the research process. Research strategy is described as the action plan a researcher undertakes in order to conduct the research systematically. Research strategy according to Ashaye (2014) provides a total direction for the research, which includes the process through which the study is carried out. It is also referred to as a general plan of action for how researchers intend to conduct their research work and answer the research questions they have designed (Saunders, Lewis & Thornhill, 2009; Bryman, 2012). There are various research strategies. These include experimental research, ethnographic research, historical research, survey research, and case study research (Yin, 2018; Creswell & Creswell, 2018). This study adopted a case study research approach, and it will be discussed accordingly.

4.4.1. The Case Study Strategy

The case study technique is a research approach that allows a researcher to conduct a thorough analysis of data within a particular context. Although both qualitative and quantitative data can be collected for a case study, analysis should go beyond quantitative measurement to establish understanding based on the actors' perspectives (Zainal, 2007). In case study research, generalisation of findings is achieved through theoretical or analytical generalisation, where

insights are applied to broader theories rather than being statistically representative of a population (Yin 2018). Likewise, case study findings can be generalised to similar cases or situations (Laws & McLeod, 2004).

Typically, the case study technique involves the selection of a confined geographical region or a restricted number of persons as the focal objects of investigation. Case studies, in their fundamental nature, aim to examine and scrutinise present-day real-world phenomena by conducting a thorough contextual analysis of a restricted set of events or circumstances, as well as their interconnections (Zainal, 2007). Case studies are frequently utilised to generate comprehensive qualitative narratives that serve the purpose of examining and describing data within real-world contexts. Additionally, case studies offer valuable insights into the intricacies of real-life scenarios that may not be adequately captured using experimental or survey research methods (Zaidah, 2003).

4.4.2. Rationale for Adopting the Case Study Strategy

The case study strategy allows for the analysis of data to be performed within the specific context of its use, namely, inside the particular situation in which the activity occurs. (Zainal, 2007). The chosen methodology was suitable for this research due to the timeliness of the phenomenon being investigated, namely the organisational development challenges related to the implementation of e-government services in Nigeria. Additionally, the distinction between the phenomenon under study and the specific context in which this implementation takes place is not well-defined. The present study will utilise a case study methodology to initially establish a comprehensive understanding of the organisational development challenges linked to the introduction of e-government services in Nigeria. Data will be collected and analysed subsequently.

The next step of the research will entail providing solutions to improve the implementation of these services, based on an established framework. The implementation of e-government initiatives is a multifaceted phenomenon, necessitating the involvement of various individuals across different levels within the designated department and agency. To comprehend the associated implementation challenges, one must examine governmental processes, technological concerns, human factors, organisational structure, and the regulatory framework. A qualitative case study method was selected to gain a comprehensive understanding of the phenomena associated with e-government implementation challenges in Nigeria's e-government projects.

To elucidate and comprehend various aspects of a phenomenon and get a comprehensive understanding, the case study approach is employed to examine complex phenomena within their contextual settings, utilising diverse data sources (Baxter & Jack, 2008). Data sources may encompass observations, textual information, visual materials, and interviews conducted with individuals or groups, such as focus groups (Silverman, 2013). Baxter and Jack (2008) assert that textual data encompasses documents, whereas observations may be categorised as direct or participant observations. The many data sources are integrated during the analysis process instead of being considered separately (Baxter & Jack, 2008).

This thesis examined two selected cases. The initial case pertains to the execution of the National E-government Master Plan. The second case pertains to the execution of the E-government Capacity Building Programme. Both instances pertain to the Federal Ministry of Communications and Digital Economy's E-government department and its principal agency for ICT policy execution, the National Information Technology Development Agency (NITDA). The empirical research in this thesis utilised interviews, focus groups, and documents as data sources.

4.5. Purpose of the Study

The main aim of the study is to explore the organisational development challenges to improving the implementation of E-government services in Nigeria. The aim of the study is guided by the following objectives:

a) To determine the organisational development issues impacting e-government services in Nigeria.
b) To explore processes related to the implementation of e-government services in Nigeria.
c) To assess the socio-technical concerns in the implementation of e-government services in Nigeria.
d) To identify an organisational development framework for improving the process of implementing e-government services in Nigeria.

The research questions are:

a) What are the organisational development issues impacting e-government services in Nigeria?
b) What are the processes relating to the implementation of e-government services in Nigeria?
c) What is the socio-technical concern that must be addressed for the implementation of e-government services in Nigeria?
d) How can an organisational development framework improve e-government services in Nigeria?

4.6 Research design

As the research design delineates the methodology for executing research, it facilitates the attainment of the study aim or the resolution of the research question(s) (Maree & Van der Westhuizen, 2011, p. 33). The researcher's overarching plans direct the study process,

facilitating its execution (Murnane & Willet, 2011, p. 48; Babbie, 2004, p. 12). This framework delineates the interrelation among various components of a study, encompassing the foundational theory, research methodology, and epistemological stance, thereby offering a unified structure for investigation (Creswell & Poth, 2018; Lincoln, Lynham, & Guba, 2018), along with the pertinent data collection procedures implemented (Marvasti, 2004).

4.6.1. Study Site

The researcher conducted this qualitative inquiry at the Nigerian Federal Ministry of Communications and Digital Economy. A small sample size was taken to pursue an in-depth understanding of the study. For this study, sampling was strategic and purposeful and focused on the unique contexts of the cases.

4.6.2 Sampling Methods

Sampling refers to the process of selecting a small group of individuals from a larger target population for research, ensuring that the sample is representative and appropriate for addressing the research questions (Etikan, Musa, & Alkassim 2016; Taherdoost, 2016) It is thus clear that samples are drawn or chosen from a study's population as discussed in the section above (see section 4.6.1). This research study utilised the following sampling techniques:

a) **Chain-referral Sampling.** Initial contact was made with individuals most relevant to the research topic; thereafter, they were used to contact others. The chain-referral sampling method is also known as snowballing, and it is a type of convenience sampling. It is also a non-probability method of sampling which is particularly useful when it is difficult to identify sample subjects with experience of the phenomenon being studied. Therefore, referrals were requested from the research participants about people with similar experiences who could be contacted (Bryman & Bell 2011). The resultant

effect of referral proved extremely useful in this study, as it involved a Federal Ministry in Nigeria and gaining access to certain highly placed individuals was difficult.

b) **Purposive Sampling** was done by targeting the 'gatekeepers' in the Ministry who could help with access to the appropriate research participants by their positions, levels of authority, and familiarity with the cases. The gatekeepers in this regard are their secretaries, clerks or personal assistants. This is also a non-probability method of sampling and using this method will help interviewees provide an accurate depiction of events and thoughts during the study.

4.6.3. Data-Gathering Methods and Procedure

Case studies typically use several data-gathering approaches to acquire contextual complexity and detailed facts on a phenomenon under research (Silverman, 2013). The sample size was selected based on the Krejcie and Morgan Table (Krejcie & Morgan, 1970) for determining sample size for a given population. Furthermore, based on the researcher's knowledge and credibility, only those people who were directly involved in the implementation of E-government services would participate in the research study. The data collection was carried out at the Nigerian Federal Ministry of Communications and Digital Economy. All the data were collected in the English Language, and there were no language barriers since Nigeria is an English-speaking country. English is the language of policy and governance.

a) **Interviews** I used semi-structured interviews to gather data from a sample of 10 staff members, which included two directors from the e-Government Department of the Federal Ministry of Communications and Digital Economy. To enable me (researcher) to discuss issues in detail with the participants, I took the following steps:

    i. Introduction – I started each interview with the participants by greeting them, formally introducing myself and listening to them introduce themselves.

ii. I reiterated that I want to interview them on the implementation of E-Government initiatives in Nigeria. Having done that, I asked them if they were still willing to participate in the interview.

iii. I spelt out the purpose of the interview.

iv. I made the duration of the interview clear.

v. I commenced the interview session.

vi. I made closing remarks – I thanked them, summarised what was said, and further reassured them of their confidentiality and anonymity in the report for this study.

The interviews were conducted in private to protect the interviewees and their responses. An interview guide provided a semi-structured set of questions and prompts that I (researcher) followed during these interviews to maintain consistency across interviews. Interviews with participants took place on the days scheduled with minimal adjustments. All individuals who participated in the interviews were above 18 years.

b) **Documents:** The researcher collected data from the National E-Government Plan of Nigeria. Data obtained from the document proved very useful in my literature review and also for complementing data obtained from interviews and focus group discussions. Also included in data sources were selected pieces of literature relevant to the study.

c) **Focus Group:** The focus group discussions will allow the researcher and respondents to have conversations all together (Babbie, 2011). The focus group composition included top e-government managers, decision-makers, as well as individuals in medium and low management positions, together with service clerks. These sessions were held in the meeting rooms of the Ministry. I used the set of questions prepared for the participants to guide and facilitate the discussions, making sure the research topic is covered entirely. There were 2 focus group discussions held; each group consisted of 10 members. Data from the focus group discussion were used to complement data

obtained from the interviews and the document analysis. In managing dominating participants, I set ground rules that encouraged equal participation and prevented domination. Sometimes, I intervened politely to manage group dynamics and posed questions to quieter participants directly. Responses were captured using audio recordings and note-taking. This data-gathering approach allowed me to obtain oral data from a group of participants and have that data validated almost immediately by other members of the group during the discussions.

4.6.3. Data Analysis and Interpretation

This study employed two qualitative data analysis techniques, thematic analysis and document analysis.

a) **Thematic Analysis:** Thematic analysis is a flexible approach that can be utilised to analyse diverse types of qualitative data, including but not limited to data derived from focus groups, surveys, interviews, and polls, illustrations, observational studies, fieldwork, action studies, vignettes, and other secondary sources (Saldana & Johnny, 2009). The researcher used this method to analyse the data derived from focus group discussions and interviews.

b) **Document Analysis:** Bowen (2009) posits that document analysis is a methodical approach employed to examine and assess both printed and electronic documents. The utilisation of document analysis allows for the acquisition of contextual information, augmentation of existing data, facilitation of the generation of supplementary inquiries, retrospective examination of previous occurrences, observation of alterations and advancements, and corroboration of discoveries through the consultation of alternative sources (Bowen, 2009). The use of document analysis can be employed either in isolation or in conjunction with other methodologies when examining a particular phenomenon (Pershing, 2002). The researcher used this method to examine and

interpret data derived from the National E-Government Plan and carefully curated the selection of scholarly literature.

4.7 Ensuring rigour: validity and reliability

Reliability refers to the extent to which research findings exhibit consistency over time and accurately portray the entire target population being investigated. When the results of an inquiry can be reproduced using a similar methodology, the research instrument is considered to possess reliability. Validity simply measures whether the measuring instrument (i.e., questionnaires, interview guides, etc.) is accurate. In a qualitative research design, validity and reliability can only be ensured through trustworthiness, which can be achieved through dependability, credibility, transferability, and confirmability.

a) **Dependability** refers to the extent to which a study, when replicated with identical design, methodologies, and population, yields consistent outcomes. This study will utilise semi-structured interviews as a means to provide guidance to the respondents and facilitate the expression of their experiences and emotions. In order to establish the reliability of this study, a preliminary examination will be conducted using a sample group that closely resembles the primary study population.

b) **Credibility** pertains to the authenticity and veracity of the research outcomes. Therefore, this study will utilise triangulation, peer review, persistent observation, and reflexivity.

c) **Transferability**, in the context of this study, pertains to the likelihood that the findings can be applied to comparable contexts and populations, thereby possessing equivalent significance. The interviews were conducted in a manner that ensures fairness and allows for in-depth examination, while avoiding superficial information. This study aims to ensure transferability by incorporating comprehensive background information on the issue, specifying the number of participants and observations included in the

study, outlining the sampling process employed, and including transcripts of the interview discussion. The researcher gathered comprehensive data that had relevance to other Ministries in Nigeria. Nevertheless, it is important to note that these findings cannot be extrapolated to all Government Ministries, parastatals and agencies in Nigeria.

d) **Confirmability** is a fundamental objective in research, as it seeks to guarantee the collection of data that is both true and correct. The study prioritised the utilisation of precise and reliable data. Maintaining an audit trail through the use of process notes, audio recordings, and transcripts contributed to the enhancement of confirmability.

4.8. Ethical Considerations

Throughout the different phases of research, ethical considerations are bound to arise. Consequently, it was imperative for the researcher to acknowledge that research entails the collection of data pertaining to individuals and from individuals (Creswell, 2009). The primary duty of the researcher was to evaluate the potential risks of harm that participants may encounter and take appropriate measures to safeguard their well-being (Bryman & Bell, 2007; 2011). Throughout the study, it was imperative to uphold the principles of confidentiality with regard to records, anonymity of accounts, and the privacy of participants. Violating confidentiality rules and deceit should also be avoided (Silverman, 2010). Furthermore, all participants needed to provide their informed consent before engaging in the research. According to Creswell (2009), the following information should be effectively conveyed to participants:

a) The objective of the study
b) The researcher's identity
c) The method of participant selection
d) The extent and nature of participant engagement
e) The assurance of maintaining confidentiality for the participants.

f) The guarantee is that the participant has the option to withdraw from the study at any point.

g) A designated individual to be contacted in the event of inquiries or issues.

The researcher followed these ethical guidelines for the study:

a) Permission to Conduct the Study

Following UNISA's guidelines, the researcher will ask for permission to conduct the study in the e-Government Department of the Federal Ministry of Communications and Digital Economy.

b) Privacy, Anonymity, and Confidentiality

The researcher shall respect the selected research participants. Interview and discussion data will be respected, and only other to access the data would be the research supervisor. The researcher must protect the data from third parties. Non-study participants will not receive the data. The researcher will guarantee that participants are not in an uncomfortable public space throughout interviews and focus group sessions. No one will be permitted into the interview room. Participants will have privacy. When publishing findings, the researcher will conceal respondent identities. Protecting names and positions. The researcher will tell participants that their data is private and confidential. If the research findings are released, respondents' identities will not be disclosed.

c) Voluntary Participation

Voluntary participation means that participants must not be compelled or coerced to participate in research (Babbie, 2010; McMillan & Schumacher, 2010) because research, especially social research, represents an intrusion into people's lives (Babbie, 2010). Thus, it is ethically unacceptable for participants to be forced to participate in any research, irrespective of the relationship between the researcher and the participant.

Participating in the study was optional; participants were told they could opt out anytime, and their choice would be respected. Refusing the study won't hurt anyone.

d) Informed Consent

The process of informed consent is a legally mandated procedure that enables study participants to be fully apprised of the potential risks and associated costs involved in the research (Pilot & Hungler, 2011). The researcher undertook to furnish a document of informed consent, which UNISA mandates that the participants endorse before engaging in the study. The researcher undertook to articulate the research topic and objectives to ensure that the participants comprehended the nature and purpose of the investigation. Those participating were asked for their permission to capture audio before the interview began. This had been revised. Due to the nature of focus groups, the researcher could not guarantee confidentiality to the participants. While the researcher asked that the focus group participants keep all information disclosed during the group confidential, there was no guarantee that participants would refrain from sharing their experiences during or once they had completed the research study. As a result, the researcher disclosed this risk to privacy and confidentiality on the consent form.

e) Right Not to be Harmed

The researcher made sure that any potential risks to the respondents and their workplaces were transparent. The participants would be duly notified that they had the option to discontinue their participation if they experienced any discomfort in divulging their personal experiences.

f) Plagiarism

According to McMillan and Schumacher (2010), plagiarism means not giving credit to the original source of an idea or text. For me, as the researcher, it amounts to intellectual

theft and is equated with stealing scholarly or intellectual products from their creators or originators. Not using the works/products of originators in one form or another is almost impossible in any research project. Typically, these works/products form the bulk of the literature review and theoretical framework chapters and of course feature largely in the methodology chapter and the orientation/overview of the study that foregrounds the study itself. In an attempt to avoid plagiarism, all material utilised in the form of citations was duly acknowledged, as can be seen on the reference list. Should any not be acknowledged, I honestly declare here that it is a mistake and not deliberately done.

4.9 Chapter Summary

This chapter discussed the research methodology, approach and design underlying this study in detail. Data collection processes and instruments were explained, and the ethical requirements were addressed. The next chapter deals with the presentation and analysis of data.

CHAPTER FIVE

DATA PRESENTATION

5.1 Introduction

This section presents the data for the research study. The data collection process of the study involves participant interviews and focus group discussions on their perceptions of some of the strategies to be adopted in improving the e-Government services in Nigeria. This was done in order to determine how the Department of E-Government at the FMCIDE can improve the implementation of e-government services in the Nigerian environment. The study made use of interviews and documentation analysis. The interview of the participants started on 15 July and ended on 17 September 2024. It involved the researcher going to their offices at the FMCIDE to meet the participants and ensuring they were all interviewed. The study proposed 30 participants and made use of 25 valid responses. The following depicts the breakdown of the participants obtained from the interview.

Data Collection Channel	Proposed Sample Size	Valid Responses	
Interviews	10	9	
Focus Group Discussion 1	10	8	
Focus Group Discussion 2	10	8	
Total		25	

Table 5.1: Analysis of Transcribed Interviews and Focus Group Discussions

This chapter is divided into two parts; the first section examines the socio-demographic information of the participants, while the second section analyses the presentation of the study, which was based on the study's research questions. The study adopted the combination of different methods (triangulation), which are interviews, focus group discussions and documentation. The use of triangulation in qualitative research helps to strengthen the findings

of the study, as getting information from different sources of data collection would provide more room for diverse opinions and explorations of more insights (Levitt et al., 2017). The interview section was conducted among civil servants in the FMCIDE, but only 25 were presented and regarded as valid for the research presentation. Therefore, the study analysed the results of the study based on 25 participants who were both junior and senior staff of the FMCIDE. Furthermore, these interviews and the case study were done to elicit information on how the e-Government Department of the Federal Ministry of Communications and Digital Economy can improve the implementation of e-government services in Nigeria.

5.2 Socio-Demographic Characteristics (In-depth Interview and Focus Group)

This section examines the variables of the study as it showcases the demographic overview information of the participants in terms of their sex, ethnic background, religion, marital status and participants' class (see Appendix 1). The socio-demographic information showed that 18 of the participants were senior staff in the FMCIDE, which is one of the strategies adopted by the researcher to get more refined information from people who have been involved in e-government services for a long time. Moreover, the majority of the participants are involved in program implementation and monitoring, which shows that e-governance implementation is the core focus of the participants in the study.

5.2.1. Results Based on the Objectives of the Study

This section is centred on the analysis and interpretation of the raw data from the in-depth interviews carried out in the field, the focus group discussion and the documentation analysis done by the researcher. This process of making use of different data collection methods enabled the researcher to get in-depth information and perspectives on the implementation of E-Government services in Nigeria (Corbin & Strauss, 2008). These methods allow the researcher to obtain information from participants in their natural setting and to be involved in the

experience of e-governance implementation as well as the challenges encountered in the process of programme design (Walia, 2015).

5.3 Thematic Analysis

The thematic analysis focused on the creation of themes/codes for the responses provided by the participants. This section focuses on the interpretation of the raw data by decoding it into codes and arranging these codes into concepts that can be related to the research questions. As the data coding continues in the creation of themes, patterns begin to develop into different transcripts, and each transcript is then examined and developed into phrases, sentences and paragraphs for the study (Yauch & Steudel, 2003). Therefore, participants' quotes, which are regarded as broader than the central ones, are noted as an area of interest for the researcher, as the general statements made are refined and narrowed down to fit the research questions. The thematic analysis is used to analyse the first 3 research objectives using the ATLAS.TI software (see Appendix 5).

5.3.1 Research Data Presentation: Question 1

"What are the organisational development issues impacting e-government services in Nigeria?"

Under this research question, three themes were identified to develop answers on the organisational development issues impacting e-government services in Nigeria. From the organisation and responses provided by the participants, themes were developed and they include bureaucratic delays, change resistance and poor communication.

Figure 5.1: Themes in organisational development issues impacting e-government services in Nigeria

5.3.1.1 Theme 1: Bureaucratic Delays Experienced in the FMCIDE

The need for information or memo to pass through the manual procedure, not considering the timing, is one major problem facing the implementation of e-government in the different Federal Ministries, Departments and Agencies in Nigeria, not just the FMCIDE. The reliance on physical documentation and in-person approval is another major issue faced in the FMCIDE, as this process hinders the swift process of getting tasks done and further delays the use of digital technologies that would have made the process faster. Moreover, corruption was further analysed as part of the reasons for the delay in the use of technology by public service workers. Corrupt practices where bribes are expected to speed up the process will further influence the continued use of manual processes of engaging in official tasks and providing government services. Therefore, the major challenge experienced is the bureaucratic delay in providing government services to stakeholders, which in the long run further delays the use of technologies. According to one of the participants of the study:

> We experience a lot of delay in carrying out our official duty as we need to wait for the official in charge to get approval. I believe there is a need for us to make use of technology, as the presence of the personality will not be needed. Experiencing this delay sometimes makes one get used to the process and not consider the use of technologies (IDI, Respondent 4)

From the responses, another participant indicated that:

> The major challenge is the absence of an e-government organisational framework. Though the draft organisational framework has been developed, it is yet to be passed by the National Assembly. Currently, no framework exists to guide e-government implementation, and the tasks are completed by government workers through manual procedures that do not allow for innovation or shortcuts that will help hasten the completion of the task. I believe this is affecting us and not letting us opt for technology use (IDI, Respondent 2).

Furthermore, participants indicated that the reason for this bureaucratic process had been noted to be a result of corruptible acts by the stakeholders. It was noted that excessive red tape and hierarchical structures put in place encourage the engagement in corrupt practices. As noted by 19 of the participants, the foundation of the delay is corruption, and this is the major reason

there are perennial delays in e-government project execution. As noted by another of the participants:

> There is no continuity in e-government management from the political class. They are all involved in what they will benefit from, and this has made it difficult for the public sector to run on a paperless system. Corruption has been the reason for the delay, which has made stakeholders not fully accept the e-government ideology (FG1, Respondent 1).

5.3.1.2 Theme 2: Change Resistance

Resistance to change is another challenge impacting the implementation of e-government services in Nigeria, as it was noted that the fear of losing one's job, lack of skills, being stuck with manual procedures and mistrust in technology are the major factors considered when initiating the use of technologies. Some of the participants in the study indicated these factors as some of the reasons responsible for the issues affecting the use of technology in the FMCIDE.

> E-government services are centred on accountability, transparency, effectiveness and efficiency. But getting many public and civil servants to learn new methods and procedures that will promote this has been challenging, as many are comfortable with maintaining the status quo. Many government workers are used to the existing paper-based system and believe e-governance systems are hard to comprehend. (FG1, Respondent 3)

In response to the resistance to change, another respondent indicated that:

> The fear of public exposure of corrupt practices of the political leadership is preventing the launch of the 5G network in Nigeria. There is resistance to change as the government believes the initiation of the network will cause a lot of negative changes; hence, the resistance to this change prevents the full implementation of the network in Nigeria. (IDI, Respondent 4).

The resistance to change has been one of the major challenges experienced in the implementation of e-government in Nigeria. The lack of skills by the employees was noted as they resist new changes they are not prepared for, or lack the necessary knowledge to adapt. The resistance to change has been noted to impact the implementation of government initiatives and also the intended efficiencies that it brings. Also, this had increased cost on the part of the

government as prolonged resistance had been noted to lead to delayed projects and long implementation periods of projects. According to another participant of the study:

> To balance the need and challenges, frequent training and organising workshops for the staff and citizens are some of the ways the resistance to change can be prevented. Public and civil servants can be exposed to new technologies through training and workshops, as this sets them on the path to acquire new knowledge. A situation where this is not done properly will make them resist technology change and focus more on the papered procedures (IDI, Respondent 6).

Furthermore, the resistance to change was seen not only to delay projects but also to increase the cost of project implementation. From the general perspective shared by the participants, the resistance to change creates a negative work environment, as the lack of training or workshops organised by the government only gives room to old ways of implementing projects and policies, unlike the effectiveness in project implementation using technologies that are well understood by users.

5.3.1.3 Theme 3: Poor Communication

The inability of the government and other stakeholders to disseminate information effectively is a major challenge experienced in the implementation of e-government in Nigeria**.** For example, many citizens are unaware of the benefits of e-government services due to insufficient information on how to access and use those services. From one of the participants in the study, it was noted that the lapses in the communication system among e-government stakeholders could lead to frustration and disengagement. According to the participant...

> Breakdown in the bridges of communication between departments in the FMCIDE is one of the challenges in the implementation of e-governance in Nigeria. The intended users are not carried along properly, as this is responsible for misalignment between stakeholders and users. (IDI, Respondent 3).

Another participant stated that:

> E-government services are in silos. There is no integration between e-government services within the FMCIDE and between the MDAs. There is no data sharing, and so each Ministry, Department and Agency (MDAs) build and manages their e-government systems to implement their services to

> citizens. This siloed approach to e-government services implementation frustrates efforts at alignment and communication. (FG2, Respondent 6).

Poor communication is also experienced hierarchically from the top down in a manner that alienates prospective users. This is from one of the participants in the study:

> The link in communication is not well channelled between the stakeholders, who are the government workers and the users of these services. Personally, the public needs are not well aligned with them as they see the use of e-governance activities as a way for the government to extort them; hence, the faulty communication on the effective uses of these services is a major cause of this problem (IDI, Respondent 8).

To reinforce the point above, another participant mentioned the faulty communication flow as a major challenge in the implementation of e-governance activities in Nigeria. As noted by the participant:

> There is a lack of clarity in the roles as unclear division of responsibility and overlapping roles can lead to inefficiencies. When roles and responsibilities are not clearly defined, different agencies might attempt to perform the same functions and activities leading to duplication of efforts, hence this causes delay in project implementation as well as results in the waste of resources and confused end users (IDI, Respondent 7).

Therefore, 19 of the participants in the study indicated the influence of poor communication as one of the challenges experienced in the implementation of e-governance in Nigeria. It was also indicated that poor communication led to ambiguity and this further led to conflicts between different government agencies with one trying to assert control over the other including the procedures to use in handling specific tasks.

5.3.2 Research Data Presentation: Question 2

"What are the processes related to the implementation of e-government services in Nigeria?"

Using the content analysis method under this research question sheds more light and in-depth analysis on the processes relating to the implementation of e-government services in Nigeria. As mentioned by the participants, the processes noted to connect the proper implementation of e-governance services include:

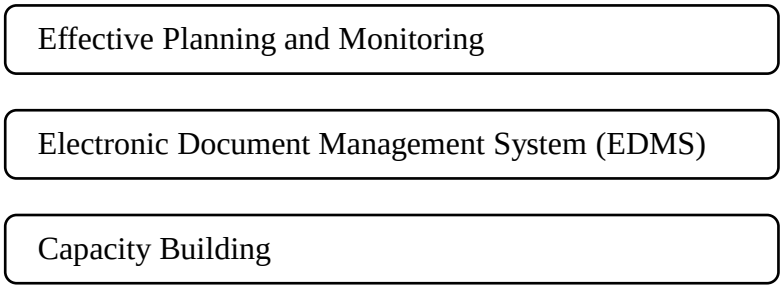


Figure 5.2: Themes in the processes related to the implementation of e-government services in Nigeria

5.3.2.1 Effective Planning and Monitoring

The need for effective planning was noted to be one of the effective ways in the implementation of e-government services in Nigeria. This includes the need to monitor projects through different strategic plans developed for those projects. Also, project performance is measured by metrics included in the plans through the civil servants using the digital platforms developed for engaging with the citizenry. One participant indicated the use of performance metrics in monitoring e-governance services and building human capacity as follows:

> Performance metrics are used in monitoring e-governance activities and in capacity building among stakeholders. By establishing performance metrics, monitoring and evaluating the effectiveness of e-government services is easier to implement by civil servants who implement e-government services. (IDI, Respondent 7).

5.3.2.2 Electronic Document Management System (EDMS)

The use of the EDMS software in tracking documents is an effective means of e-governance implementation processes, as it makes it easier to upload and download data. It further helps civil servants and citizens to search for and retrieve information from the database. The system can be integrated with other systems, such as the enterprise resource planning (ERP). Furthermore, capacity building was conducted for civil servants to expose them to appropriate technology that will aid in effective workflows through training, workshops and seminars. As noted by one of the participants in the study:

> The FMCIDE monitors other MDAs to encourage them to provide e-government services for the purpose of making governance more responsive and effective. The Ministry of Communication, Innovations and Digital Economy (FMCIDE) is responsible for monitoring the activities of other Ministries, Departments, Parastatals and Agencies in ensuring that they adopt and deliver public service through digital means as much as possible. (IDI, Respondent 1).

Also, on effective monitoring and use of the EDMS of different agencies as part of the process in the implementation of e-government services, another respondent opined that:

> Electronic Document Management System (EDMS) implemented by the Federal Ministry of Transportation and Office of Head of Civil Service of the Federation (OHCSF) helps to facilitate the storage and management of documents electronically, hence the software is implemented as a way to ensure that the e-governance services are well monitored and used in digital implementation in Nigeria (IDI, Respondent 3).

5.3.2.3 Capacity Building

On the building of capacity, it was noted by participants that government initiatives provide training and workshops that expose and improve civil service knowledge on e-government and e-governance.

One participant indicated capacity building as a part of the processes:

> There are several technical measures put in place to evaluate the effectiveness and efficiency of the Ministry. We have the use of different digital strategies such as the EDMs, Customer Relationship Management (CRM) Systems and other software used to build capacity among stakeholders. (IDI, Respondent 6).

It was also noted by another respondent that:

> Training programmes on e-government are provided to staff and stakeholders to gain knowledge on modern technology initiatives for public service. Human capacity building is essential to civil servants as it keeps us in the game of using modern technology and implementing e-government initiatives. (FG1, Respondent 3).

Another participant also indicated that capacity building in e-governance provided the civil service with various means and platforms for effective delivery. From the participant…

> We have different service delivery platforms. This includes establishing a centralised e-government platform for emails and services where civil servants and other stakeholders are exposed to. We have an information management system where we get updates, attend to clients' requests and give reports. But it is not well utilised. (FG2, Respondent 8).

According to the analysis, the processes involved in the implementation of the e-governance services in Nigeria were demonstrated to be through effective monitoring, the Electronic Document Management System (EDMS) and capacity building. This was noted by the majority of the participants, who indicated that there were strict measures put in place to monitor projects using technology, but the implementation of these measures was poor. Furthermore, there is the EDMS system, which is used to store the MDAs data as well as retrieve it. Providing training to equip public and civil servants, as well as other stakeholders working with the government, with the necessary skills to use digital technologies is tagged as capacity building. In conclusion, on some of the processes relating to the implementation of e-government services, 21 of the participants indicated monitoring, the electronic document management system (EDMS) and capacity building.

5.3.3 Research Data Presentation: Question 3

"What is the socio-technical concern that must be addressed for the implementation of e-government services in Nigeria?"

As demonstrated by the participants, the socio-technical concerns to be addressed before the proper implementation of e-government services in Nigeria include the following:

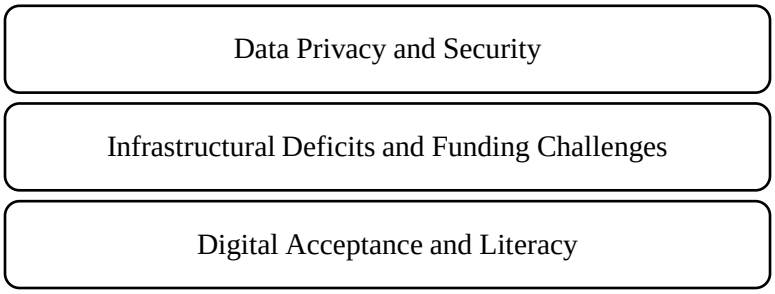


Figure 5.3: Themes in the socio-technical concern for the implementation of e-government services in Nigeria

5.3.3.1 Data Privacy and Security

On data privacy, it was noted that these are some of the issues to be considered in the implementation of e-governance services in Nigeria, as it helps to safeguard and protect citizens' and other end users' information and the integrity of the government. It was noted that data privacy and security ensure not only trustworthiness from the part of the users but also promote compliance with international standards. According to one of the participants in the study:

> Data privacy and security concerns need to be taken into consideration before the implementation of e-government services or the deployment of digital platforms for public service delivery. When users trust the platforms with their information, they are more likely to use them repeatedly to access government services. (IDI, Respondent 1).

From another participant who shared their opinion on the importance of cloud computing:

> Adoption of cloud computing is highly essential when considering e-government implementation in Nigeria. This will enable a well-streamlined data sharing and allow this data on one platform with maximum protection. So, the adoption of cloud computing needs to be considered in data security (IDI, Respondent 4).

On data protection and privacy, another participant indicated the need for this:

> Data protection and privacy laws need to be complied with. Ensuring compliance with existing data protection and privacy law when handling citizen data in e-government is highly essential and one of the major issues to be considered in the e-government services (IDI, Respondent 8).

Moreover, on the need to implement platforms that will safeguard the information of users and other stakeholders, other participants indicated that…

> "Adequate funding to ensure cyber security measures are put in place also needs to be considered. The need for the government to adequately fund the regulation and monitoring of security protocols is important for preventing security breaches and theft of citizens' and government data." (FG2, Respondent 9).

5.3.3.2 Infrastructural Deficits and Funding Challenges

Another significant challenge noted in the implementation of e-governance initiatives is the unavailability of resources. The resource constraints can be in the form of human, technological, process and infrastructural limitations. As demonstrated by the majority of the participants in

the study, financial constraints have been one of the major challenges experienced in the process of e-governance implementation, as e-governance projects are not getting sufficient funding. This limits the use, development, deployment and maintenance of digital platforms for public service. From one of the participants in the study, it was noted that:

> The unavailability of resources is one of the specific challenges in the existing organisational structure of the FMCIDE that has been identified as a barriers to effective e-government public service delivery. The lack of adequate funding for most e-governance project led to their abandonment. This is adversely influencing the development and implementation of e government projects (IDI, Respondent 1).

Moreover, on the financial constraints hindering the proper implementation of e-governance in Nigeria, this was noted by a participant:

> Limited resources and funding are a notable challenge. E-governance projects are not getting the right funding, and as such, digital initiatives die easily, thereby causing public and civil servants to return to the manual pattern of engaging in tasks and service delivery. For example, the National Identity Management System (NIMS), which aims to create a consolidated national identity database, is one of the major e-governance initiatives that is experiencing low funding. Delay in the rollout of the consolidated database is a result of a lack of funding; hence, funding is affecting the development of e-government services in Nigeria (IDI, Respondent 5).

On the structural and infrastructural challenges involved, participants indicated that there were no facilities to aid the effective implementation of e-governance services in Nigeria. It was indicated by most of the participants that the political will to engage in infrastructural development that would aid effective e-governance was lacking on the part of the government. Hence, e-government initiatives were discouraged and underdeveloped in the country. According to one of the participants in the study:

> There is no political will to implement e-government services in Nigeria. A stable electricity supply in the country is not available. Also, the lack of power supply has a huge cost in the implementation of e-government services, as alternative power supplies have to be procured and maintained. Issues such as the rising cost of diesel for power generation are discouraging the use of more technological platforms by civil servants to do their tasks and also in service delivery (IDI, Respondent 9).

Another participant in the study demonstrated that:

> Inadequate infrastructure had hindered the proper implementation of technologies in the public service, especially in the remote areas and regions. The lack of adequate broadband internet had resulted into some prolonged downtime internet issues which on the long run affected the reliance on the internet and increased reliance on the manual procedures, especially in areas with no proper structures for digital technologies (FG1, Respondent 3).

Moreover, another respondent pointed out that the availability of infrastructure for e-government services indicated the need for more improvement, as what we have on the ground cannot sustain the level of digital services in the FMCIDE. According to the participant:

> The Enterprise Content Management was launched by the Office of the Head of Civil Service of the Federation (OHCSF). The OHCSF has gone paperless and is driving digitalisation across the Ministries, Departments and Agencies (MDAs). But as in other cases of innovation in the public service, there is resistance and delay in implementing the paperless initiative across all Federal Ministries, Departments and Agencies. In terms of government-integrated financial management, there is a need to manage public finance through initiating various modern financial technological platforms. Payment of salary to civil servants is not always entirely through an integrated payroll information system due to compliance resistance or upgrade problems from technology platforms, and some MDAs still process salaries manually. (FG2, Respondent 7).

It was also noted that the implementation of e-government services in Nigeria was significantly hindered by a lack of adequate resources. This is slowing down the initiation of new digital technologies in the public service. These constraints affect various aspects of work, limiting the activities of the civil servants to provide reliable and accessible e-governance services. The lack of resources in terms of infrastructure, financial and human resources is a huge challenge to the implementation of e-government services in Nigeria.

There is a need for good ICT infrastructure and adequate funding for the effective implementation of e-government services in Nigeria. As noted by the participants, the presence of infrastructural facilities like mobile network structures, encryption protocols, authentication platforms, payment gateways, among others, will enable the implementation of e-government services to be more effective and user-friendly. More so, adequate funding is needed for the

maintenance and upgrading of these facilities to ensure that they work as intended and safeguard data and information from cybersecurity threats. From one of the participants, it was demonstrated that:

> Some of the issues and challenges of funding constraints and infrastructural technological obsolescence are concerns that need to be addressed for the effective implementation of e-government services in Nigeria. (IDI, Respondent 7).

From another participant, it was noted that:

> If the infrastructural facilities of the country are not in good condition, I am not sure that e-government services will be appreciated. Infrastructures such as mobile networks, data collaborative platforms and other public key infrastructures are driving e-government services in Nigeria. For example, payment platforms with good infrastructural facilities will be well accepted by the people, and they can decide to use them as a medium to transact with the government. (FG2, Respondent 16).

Furthermore, another participant noted that adequate funding makes the implementation of e-government services effective in Nigeria…

> The challenges of the FMCIDE are numerous, such as the lack of cooperation with other Ministries in the area of data and information sharing. The Ministries hide information from one another and make it difficult to collaborate. This is used to justify the need for separate funding for similar e-government projects that would have been better funded as a single project if the Ministries involved had collaborated. This impacts other projects and initiatives that require funding but are unable to secure funding. (IDI, Respondent 6).

The opinions of participants on infrastructural vulnerabilities and poor funding reveal that the major e-government services in Nigeria do not have the infrastructural support to operate effectively, and the ones that have, lack adequate funding. As demonstrated further, infrastructural facilities provide the foundation for delivering e-government services, and in situations when they are unavailable, it becomes a problem for these services to be accessed by the public. As suggested by the participants, investing in robust infrastructural facilities through funding can help enhance government service delivery, improve users' accessibility and provide a more transparent governance system.

5.3.3.3 Digital Acceptance and Literacy

Digital acceptance and literacy were regarded as one of the fundamental issues impacting the implementation of e-government initiatives in Nigeria. As discussed by the majority of the participants, digital literacy is essential as this exposes the citizens and civil service to the use of digital technologies to deliver services on the one hand and to access government services on the other. Digital literacy is noted to be crucial by the participants as it determines how citizens, civil servants and other stakeholders interact with e-government services and platforms in Nigeria. In Nigeria, e-governance must first come with digital literacy on how to effectively use digital tools to access and evaluate information or services. According to one of the participants in the study:

> Implementing digital literacy programmes to address digital exclusion will go a long way in people's usage and acceptance of technologies. At FMCIDE, we have advanced to the use of technologies in carrying out our tasks, but for more acceptance of these technologies, we need to put more sensitisation on the use of these platforms. (IDI, Respondent 5)

Another participant also noted the importance of digital literacy before the implementation of e-government services in Nigeria:

> Currently, the workflow is 70% paper-based and 30% digital. However, the FMCIDE is improving very fast to close the gap. We need more digital literacy in the Nigerian civil service is poor and needs to improve for effective implementation of e-government services. Also, an increase in the digital literacy of citizens will lead to more acceptance of e-government services. (IDI, Respondent 8).

Also, on the need to ensure citizens are carried along in the e-government process, it was noted by participants that the users must be aware of the electronic platforms to be used to access government services and be trained on how to use them. This will propel their interests and give room for its acceptance. As noted by the participants:

> Citizen participation will give room for acceptance. In e-government, it is essential to ensure citizens' participation through public consultations and feedback mechanisms. The citizens need to be educated through the consultation, as this will enhance their learning and get them ready to want to use the services. (FG2, Respondent 16)

The socio-technical concerns that must be addressed for the implementation of e-government services in Nigeria are data privacy and security, infrastructural vulnerabilities, funding, and digital acceptance and literacy. It was demonstrated from the responses that data privacy helps to protect information of both citizens and government, therefore promoting trust and confidence in the use of these e-governance services in Nigeria. Moreover, on infrastructural vulnerabilities and funding, the lack of adequate digital infrastructure in Nigeria has hindered the implementation of some e-government services in the country. This was explained in the differences between citizens in the rural and urban areas accessing government services. For example, citizens in cities like Lagos and Abuja can readily access and use e-government services better than people in Zamfara State. This simply shows that the people in Zamfara State have lower digital literacy rates and less exposure to digital technologies. This hinders the implementation of e-government services in those environments. Furthermore, the existing e-government services lack adequate funding, which has made a lot of them being discontinued. Digital literacy and public acceptance are also important for the successful implementation of e-government services. It was also noted that the citizens need more awareness about e-government. Without an effective awareness of e-government services and their benefits to Nigerians, it will be difficult to gain acceptance, thereby causing the implementation of these technological initiatives to be delayed further or ultimately fail.

5.3.4 Research Data Presentation: Question 4

“How can an organisational development framework improve e-government services in Nigeria?”

This objective explains the ways an organisational developmental framework improves the implementation of e-government services in Nigeria.

Subtracted Themes	Themes, Codes, and Examples of Subtracted Data	Framework Elements
1. Create streamlined structures.	2.1 Public institutions and agencies have introduced various e-Government services along with different structures to implement them.	▪ Optimal Organisational Structure ▪ Technology-Enabled Culture
2. Strengthen systems for better collaboration and communication.	2.1 The Federal Ministry of Communication, Innovation and Digital Economy (FMCIDE) is leading the adoption of the e-Government master plan as a national agenda in Nigeria. 2.2 Collaborate with ICT organisations to promote national ICT development.	▪ Communication and Collaboration
3. Promote an ICT environment in the public service.	3.1 Champion the adoption of ICTs as a tool for good governance. 3.2 Implement a capacity development program for civil servants and the public.	▪ Foster Change ▪ Innovation and Technology
4. Improve infrastructure management.	4.1 Facilitate and encourage the effective management of government data centres, databases, directory services, national information repositories, IP telephony and other solutions.	▪ ICT Infrastructure Funding and Management
5. Establish agencies for planning, implementation and monitoring of e-Government initiatives.	5.1 Public institutions and agencies have been established to drive e-Government policies and strategies and ensure they remain relevant.	▪ Effective Monitoring

Table 5.2: Themes from document analysis

5.3.4.1 An Optimal Organisational Structure and Technology Integrated Culture

An organisational structure and culture that embraces technology, ensures the civil service develops e-government services and encourages citizens to adopt them is needed for the optimal implementation of e-government services in Nigeria. One of the elements influencing the adoption of e-government is an effective organisational structure and culture. A robust organisational culture is essential for sustained growth and experience of staff, internal

integration and external adaptation, allowing the organisation to weather difficult times (Bwalya 2009). To improve e-government service delivery, the FMCIDE has adapted its structure to include the management of limited liability companies such as the Galaxy Backbone Limited, the information technology and shared services provider of the Federal Government of Nigeria and the Nigerian Communications Satellite (NIGCOMSAT) Limited through which it manages and operates the Nigerian Communications Satellite (NigComSat-1R).

The adoption of an optimal structure coupled with a digitalised culture for service delivery that is compatible with the implementation of e-government services in Nigeria will significantly improve the quality of services rendered to the public by the government through the ministries, departments and agencies (MDAs).

5.3.4.2 Communication and Collaboration

An organisational framework provides the structure needed for the FMCIDE to pursue the adoption of the e-Government Master Plan of Nigeria as a national agenda. It also firms up the resources and interactions required to fulfil the Nigerian e-government vision, which is "to create a world-class open and digitised government that connects with people to drive efficiency in public administration, responsiveness of civil services and transparency in governance, leading to improvement of the quality of life of Nigerians." (NITDA, 2020)

Within the framework, stakeholders are properly guided in their communications and interactions.

Nigeria's e-governance initiative involves the identification of key collaborative business processes in government ministries departments, and agencies (MDA's) as it involves service delivery to the general public, to automate these processes for online delivery through the one-stop government portal. This will boost the degree of production as well as efficiency in government processes (Johnson, 2012).

The e-Government Master Plan of Nigeria represents the Nigerian Government's best hope to reduce costs, while promoting economic development, increasing transparency in government, improving service delivery and public administration and facilitating the advancement of an information society. (NITDA, 2020). Therefore, the organisational framework was noted to strengthen communication and collaboration in e-government services. For instance, establishing cross-departmental teams for a specific e-government project will eliminate siloed processes, improve efficiency and effective resource usage.

5.3.4.3 Change, Innovation and Technology

It is imperative to create a positive environment for civil servants and the general public to effectively access information and services adaptively. The Nigerian Government believes it is vital to develop e-government services to make its public sector more effective and innovative. A scheme for change management in an emerging environment needs to be developed to overcome resistance from the users, which is primarily caused by the fear of workforce reduction and the avoidance of using information systems. (NITDA, 2020). With an organisational framework and an enabling structure for change, innovation and technology to thrive will provide the right ecosystem that creates room for more technology use in the country and for e-government services implementation to continually improve.

5.3.4.4 ICT Infrastructure Funding and Management

Access to information systems and the ability to use innovative ICT are extremely important for innovation and rational growth. ICT infrastructure developed and innovative management systems bring all sorts of benefits to citizens and the economy, and help to improve e-public services (Dzemydienė, Turskienėand & Šileikienė 2023). A viable ICT infrastructure is necessary for the development of reliable technologies that promote the adoption and implementation of e-Government services. Poor management of the ICT infrastructures will negatively impact the nationwide implementation of innovative digital solutions by the

Government. It will also impact ICT service management as both public servants and citizens will find it challenging to seamlessly access and deliver government services. Furthermore, the effective management of ICT infrastructures contributes optimally to the growth of a digital economy.

Public-Private Partnership (PPP) are currently used for ICT and e-government projects globally, having first been established for infrastructure development projects like roads, railroads, airports, hospitals and schools. Public-Private Partnerships are collaborations between the public and private sectors that aim to design, plan, finance, build, and/or operate projects that are typically thought of as falling under the purview of the public sector. The necessity for government funding to fulfil the growing need for the expansion and repair of physical infrastructure, such as roads, electricity facilities, and water and sanitation networks, was the first catalyst for PPP's appeal. The possibility for Value for Money (VFM), early project delivery, ICT innovation gains, avoiding the need to borrow money to finance infrastructure investment, and access to better services are some of the factors that drive government support for PPPs (Wu 2014). As the PPP model acquires traction, it quickly spreads to every aspect of public life, including ICT. In the context of e-government, implementing an organisational framework will help ensure that the Nigerian government and private sector organisations collaborate to facilitate investments and effective management for the sustainable development of the ICT sector.

Furthermore, the management of ICT infrastructure creates an ever-increasing added value, as it enables faster work and increases the productivity of ICT infrastructure services. (Dzemydienė, Turskienė & Šileikienė 2023).

5.3.4.5 Effective Monitoring

There are 7 federal agencies under the supervision of the FMCIDE:

a) **Nigeria Data Protection Commission (NDPC):** The mandate is to oversee the implementation of the Nigeria Data Protection Act (NDP Act).

b) **National Information Technology Development Agency (NITDA):** Implements the Nigerian Information Technology Policy and coordinates general IT development in Nigeria.

c) **The Nigerian Communications Satellite (NIGCOMSAT) Limited:** Responsible for the management and operation of Nigerian Communications Satellite (NigComSat-1R)

d) **Nigerian Communications Commission (NCC):** Responsible for ensuring the provision of qualitative and efficient telecommunications services in Nigeria.

e) Nigerian Postal Service (NIPOST): The government-owned corporation that provides postal services in Nigeria.

f) **Universal Service Provision Fund (USPF):** Facilitates the achievement of national policy goals for universal access and universal service to information and communication technologies (ICTs) in rural, unserved and underserved areas in Nigeria.

g) **Galaxy Backbone Limited:** The information technology and shared services provider of the Federal Government of Nigeria.

Agencies like the National Information Technology Development Agency (NITDA) and the Galaxy Backbone are needed to safeguard the interests of digital initiatives in Nigeria. As noted by Mtshali (2015), success and effectiveness in the e-government services and implementation is associated with the presence of organisations that monitor the implementation process. In Nigeria, these agencies help in the implementation and monitoring of e-government services as well as keep track of the e-government initiatives and ensure that outcomes are of good quality (Hatsu & Ngassam 2016). The tracking of the e-governance project is performed through

monitoring, which is done through the government agencies such as NITDA. Effective monitoring provides clues about what to assess, and assessment findings show what to watch out for in the future (Mtshali 2015). According to Heeks (2006), monitoring is a process of ongoing review and a tool for improved planning to make improvements. Inadequate oversight may be the cause of e-government project failures. Hence, monitoring is one of the strategies adopted to improve e-government services in Nigeria (Hatsu & Ngassam 2016).

Since it can help to focus investments on more efficient use of resources, monitoring the implementation of e-government seems to be especially beneficial in developing nations, which are known for having limited resources. Monitoring is thought to be able to direct decision-making in order to improve continually operating e-government services.

An organisational development framework can improve the monitoring of the implementation of e-government services in Nigeria by including a robust monitoring and evaluation plan in e-government project planning and implementation processes. Monitoring of e-government services will be carried out at the national and subnational levels, and it can also occur at international levels through benchmarking. For instance, the Secretariat of the United Nations conducts a biennial e-government benchmarking of its Member States (United Nations 2014), and the European Union conducts an e-government benchmarking among its member states (Capgemini, 2016).

5.4 Chapter Summary

This chapter gave a detailed account of the findings in respect of Improving E-Government Services Implementation in Nigeria from an organisational development perspective based on the 4 research questions.

1. Organisational development issues impacting e-government services in Nigeria: a. Bureaucratic Delays b. Change Resistance c. Poor Communication	**2. Processes relating to the implementation of e-government services in Nigeria:** a. Effective Planning and Monitoring b. Electronic Document Management System (EDMS) c. Capacity Building
3. Socio-technical concerns that must be addressed for the implementation of e-government services in Nigeria: a. Data Privacy and Security b. Infrastructural Deficits and Funding Challenges c. Digital Acceptance and Literacy	**4. Improving e-Government in Nigeria with an organisational development framework:** a. An Optimal Organisational Structure and Technology-Integrated Culture b. Communication and Collaboration c. Change, Innovation and Technology d. ICT Infrastructure Funding and Management e. Effective Monitoring

Table 5.3: Summary of findings

Data on the four research questions were analysed using Braun and Clarke's (2006) six-step thematic analysis process of identifying patterns and thematic codes within the body of qualitative data. Furthermore, the thematic analysis process was used together with document analysis for the generation of supplementary inquiries and the augmentation of existing data (Bowen 2009).

In the next chapter, key insights yielded through the study were discussed.

CHAPTER SIX

DISCUSSION OF FINDINGS

6.1 Introduction

Government agencies are currently exploring new ways to maximise core values for their citizens, hence the introduction of e-government services to streamline service delivery and encourage citizens' participation in government activities. As noted by the National Information Technology Development Agency (NITDA, 2020), the e-government system in Nigeria is regarded as the "National e-Government Strategies," with the vision to implement e-government services and adopt an approach that promotes transparency, streamlines service delivery, and encourages collaboration with external stakeholders in governance. Conversely, this implementation had not been effective due to a lack of basic infrastructure, proper legal frameworks and reasonable services, all of which amount to major problems in the provision of e-governance services in Nigeria. The lack of proper implementation of e-governance in Nigeria has resulted in this study focusing on four core objectives:

a) Exploring the organisational development issues impacting e-government services in Nigeria,
b) Examining processes relating to the implementation of e-government services in Nigeria
c) Ascertaining the socio-technical concern that must be addressed for the implementation of e-government services in Nigeria and
d) Understanding ways an organisational development framework improves e-government services in Nigeria.

6.2 Organisational Development Issues Impacting E-Government Services in Nigeria

From the outset (of the study), it was indicated that some of the organisational development issues impacting e-government in FMCIDE are: bureaucratic delays, change resistance, and poor communication. The bureaucratic delay was noted to range from the need for information to pass through the normal procedure, without considering the timing, while relying on the conventional style of project implementation. This is a major issue affecting the implementation of the e-government services in FMCIDE. This finding is in line with the study of Ayesha et al. (2025). It was demonstrated in their studies that the implementation of e-government initiatives will meet with opposition from the bureaucratic system of the government. Hence, officials who benefit from the conventional ways of doing things are more likely to discourage the process of e-government services implementation.

The bureaucratic divisions and systems will undoubtedly strongly oppose the advancement of e-government practice. This refers to the overburdened public sector, whose employees will interpret this as a conscious effort by the government to fire the vast majority of its employees. Therefore, it is likely that the majority of public employees will use their positions to obstruct Nigeria's implementation of e-government services. It is to be expected that they will object to a system that minimises in-person interactions between citizens and government service providers. Furthermore, as people are not ready to lose their jobs or go through the rigorous process of learning a new system, they will resist any change that they will need to make to remain in their current positions (Mergel, Edelmann, & Haug, 2025).

A study conducted by Inakefe (2023) in the public sector among civil servants shows a great resistance to change among workers. According to them, the public sector faces this difficulty. The majority of the civil servants are still accustomed to traditionally conducting government business. They still handle a lot of paperwork and move files between desks or offices. The poor acceptance of e-governance implementation in the public sector is the result of their

reluctance to its application in their services. This is due in part to the fact that the majority of public employees lack computer literacy, are underqualified, and have had little to no training in the design, implementation, maintenance, and installation of ICT infrastructure.

In addition, the study of Meijer, Curtin, & Hillebrandt (2020) shared a similar view that the lack of collaboration, not having adequate knowledge, and not interacting with people are some of the major organisational development issues impacting the implementation of e-government. Thus, the increased engagement of the citizens in terms of collaboration, participation, deep interaction and knowledge will influence the wider usage of ICT tools as users will be able to share knowledge, collaborate and encourage active participation in knowledge. Furthermore, despite the innumerable chances and opportunities provided by the benefits pertaining to the usage of e-governance services, poor communication and the lack of funding will negatively impact these benefits (Patnaik, Pattnaik & Singh 2020). For example, it was noted that discrepancies in e-governance implementation in terms of communication to various structures, technological elements, and infrastructure hindered the proper implementation of these initiatives. Additionally, it has been discovered that the quality of human capital, including their education and skill set, communication and supporting network infrastructure, and attitude, has a major influence on the successful implementation of e-governance.

These present varying degrees of difficulty for e-governance in various contexts. Inconsistencies and regulatory barriers were identified as the main obstacles to a good e-governance system in a study of Romania's e-governance experience (Soman, 2020). However, organisational developmental issues impacting the implementation of e-governance vary from context to context and are not one-way directional (Singh, 2020). It was noted in a study conducted by Abdulnabi (2024) that illiteracy, unawareness, lack of adequate facilities and limited access to technological platforms in developing nations are some of the issues affecting the effective implementation of e-governance.

Furthermore, poor communication and financial constraints are not the only factors to be considered in the implementation of e-governance (Omweri, 2024). They state that the following factors must be taken into account for the successful implementation of e-governance:

> . . . making and implementing decisions, proper leadership, putting in place organisational arrangements, ensuring resources, establishing accountability and measuring success, telecommunications network, internal agency systems, cross-government systems, service delivery network access points, internet access and skilled staff, better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information and more efficient government management.

6.3 Processes Relating To the Implementation of E-Government Services in Nigeria

On the process relating to the implementation of e-government services in Nigeria (Objective two of the study), it was noted that effective monitoring, EDMS and capacity building are the well-known processes relating to the proper implementation of e-government services in the FMCIDE. In support of this finding, the study of United Nations Department of Economic and Social Affairs (UNDESA, 2022), who indicated the benefits of the the EDMS on e-government services, demonstrated in their study that the EDMS enables government in connecting all departments, both in the public domain and private, including public servants to a variety of information and facilities' efficient communication handling.

The EDMS supports government services in improving their work process, from publications, search of records and cost savings for material usage. Therefore, it was noted that aside from effective monitoring, some of the process relating to the implementation of e-government services in FMCIDE is the proper implementation of the EDMS (World Bank, 2021).

Furthermore, recent studies on digital government in developing countries indicate that inadequate budgetary allocation and limited investment in staff training continue to affect EDMS implementation (UNDESA, 2022).

Inadequate funding remains a major challenge to EDMS implementation because digital records systems require sustained investment in infrastructure, skills development, and change management. While initial deployment costs may be moderate, long-term success depends heavily on continuous staff training and institutional readiness, which must be agreed upon by both political and technical stakeholders prior to implementation (World Bank, 2021; UNDESA, 2022).

On effective monitoring, the United Nations regularly publishes reports on e-government practice; hence, effective monitoring of the process aids the proper implementation of the e-government services or platforms (UN e-government Knowledge Base 2024). There were 193 nations included in the 2024 e-government survey through effective monitoring, as this guides e-government strategy and helps them discover their e-government strengths and weaknesses. As noted throughout the 2024 survey on monitoring e-government activities, there is a digital divide between nations and regions in terms of e-government growth, owing to a variety of issues. Additionally, the 2024 survey report highlights a significant upward trend in the development of digital government worldwide, with increased investment in resilient infrastructure and cutting-edge technologies.

The global average value of the E-Government Development Index (EGDI) shows substantial improvement, with the proportion of the population lagging in digital government development decreasing from 45.0 per cent in 2022 to 22.4 per cent in 2024. Despite significant progress in digital government development, the EGDI averages for the African region, the least developed countries, and the small island developing states remain below the global average, underscoring

the need for targeted efforts to bridge existing gaps" (UN e-government Knowledge Base, 2024).

Also, the procedure involved in the proper implementation of e-government services is not only about effective monitoring but also about instituting strong ICT infrastructure and internet access points in communities, which facilitate citizen engagement with public agencies across the country. Evidence shows that inadequate ICT infrastructure, including restricted broadband connectivity, lack of digital access centres, and low technology penetration, considerably hinders e-government adoption in developing countries, reducing citizens' ability to interact with government services. Targeted investment in digital infrastructure is thus critical to ensure that e-government services function reliably, securely, and sustainably (Ayesha, Ahlan, Ibrahim, & Ahmed, 2025).

Capacity building, which is understood as an effort to assist the government, society or individuals in the implementation of e-governance services, was noted to strengthen the implementation process and assist the government in the implementation of their decisions effectively (UNDESA, 2022). In support of the finding, it was noted that increasing application capacity in government agencies boosts public sector organisations' performance, which in the long run helps them accomplish their objectives. Enhancing human resources' knowledge, abilities, attitudes, and behaviours is known as capacity building. In e-government management, capacity building holds a strategic place although most relevant stakeholders do not fully comprehend it (World Bank, 2021).

Furthermore, capacity building is not limited to users and employees but is specifically focused on strengthening the human resources of the government apparatus responsible for digital transformation. One of the most important elements for the effective integration of e-government in public services is expanding the capabilities of the government apparatus's human resources, particularly in the area of information and communication technology.

According to recent international frameworks, the goal of e-government training and knowledge development is to produce a workforce that is highly skilled and knowledgeable in using digital technologies to support government operations and service delivery (Broadband Commission Working Group on AI Capacity Building, 2022).

Not only can skilled equipment operate current systems, but it can also be innovated to provide the community with more effective and efficient solutions. Contrarily, it was noted that while capacity building is one of the processes relating to the implementation of e-government services, other factors play major roles in the process (Caramancion & Abesamis, 2020). A study titled "Challenges to e-government implementation in developing countries" identifies socio-political factors, financial buoyancy, and adequate infrastructure as the main factors for effective e-government implementation, with human capacity being one of several factors. On the other hand, some research indicates that although human capacity is important, other factors may be more significant (Tiglao et al., 2023).

The finding under the second objective of the study shows that there are many empirical research studies that support the process relating to the implementation of e-government services in FMCIDE as the EDMS and Capacity building. Likewise, there are research findings that are not in support of this claim.

6.4 Socio-Technical Concerns That Must Be Addressed for the Implementation of E-Government Services in Nigeria.

Under this objective, it was noted that the socio-technical concerns that must be addressed for the implementation of e-government in Nigeria are data privacy and security, infrastructural deficits and funding challenges, as well as digital acceptance and literacy. This was highlighted in the study as some of the major concerns that must be addressed for the effective implementation of e-government services in the FMCIDE.

This finding corroborates recent studies that identified digital acceptance and literacy as major issues impacting e-government implementation in Nigeria (Ayesha et al., 2025; Inakefe et al.,

2023). These studies argue that the lack of formal training regarding the acceptance and application of computers, as well as internet-based platforms, remains a critical organisational and socio-technical challenge affecting e-governance services in Nigeria. Supporting this view on digital acceptance and literacy, Uzochukwu and Azu (2024) observed that the success of e-government services in developing countries largely depends on citizens' and public servants' willingness to adopt digital platforms and their level of digital competence. Where acceptance is low and digital literacy levels are inadequate, the effective implementation of e-government services is significantly impeded.

Contrary perspectives emphasise that acceptance of e-government services is also shaped by broader contextual and institutional conditions rather than individual literacy alone. For instance, Méndez-Rivera et al. (2023) demonstrated that economic conditions, cultural orientation, political trust, legal safeguards, and perceived usefulness strongly influence users' acceptance of e-government platforms. Consequently, where these enabling conditions are weak or absent, the implementation of e-government initiatives becomes difficult and less sustainable among prospective users.

On data privacy and security, it was noted that if people understand that their information is not being secured or properly safeguarded, this can discourage their use of e-government platforms and disrupt effective implementation. Evidence shows that government ICT services provide important benefits, such as cost reduction, service delivery efficiency, and streamlined processes; however, perceived risks of data leakage remain a major factor affecting the proper implementation of e-governance services. Inadequate security can result in cyberattacks, hacking, identity theft, data leakage, denial of service (DoS), and malware threats. Studies indicate that perceived risks and threats strongly impact citizens' willingness to adopt e-government services, potentially impeding successful implementation (Masoodi et al., 2024).

Regardless of the numerous benefits, perceived threats to users' information or identity can disrupt the proper implementation of e-government services. Although data security and privacy are frequently mentioned as major obstacles to e-government service implementation, recent research indicates that these issues might not be as prohibitive as is generally believed (Paul & Eghe, 2023). For example, trust and perceived utility were found to have a greater influence on e-government adoption than privacy and security concerns in a meta-analytic structural equation modelling (MASEM) review of 68 previous empirical studies on e-government.

Furthermore, real-world applications in a number of nations show that data privacy and security concerns may be successfully handled with the right steps, promoting the successful adoption of e-government (Cieszyński, 2025). For instance, Poland's mObywatel app has gained a lot of traction and provides more than 8 million users with digital ID cards and access to a range of governmental services. Like Poland's mObywatel app, Nigeria has created a digital identification platform. Nigerian residents can now access a variety of public services and a digital version of their National Identification Number (NIN) thanks to the National Identity Management Commission's (NIMC) introduction of the MWS: NIMC MobileID app. It should be noted that privacy-by-design principles are used in the app to solve privacy issues, and open-source development is being considered to improve transparency. This implies that people are more inclined to use e-government services when privacy safeguards are strong.

On infrastructural deficits and funding challenges, it was demonstrated and supported by the National ICT Policy (2012) that the lack of infrastructural facilities and proper legal frameworks are the major problems in the provision of online services and other e-government services. According to Putra et al. (2018), e-government infrastructures face several obstacles, including the lack of digital identity system, encryption and secure authentication systems problems, a lack of knowledge about how to make telemetric decisions, a lack of qualified human resources,

a lack of telecommunications physical infrastructure, internet rates that are still too expensive and inadequate, low PC penetration, a lack of public interest, and a lack of socialisation within the local government.

Based on the aforementioned description, it can also be assumed that local leaders must be committed to advancing e-government, which is rooted in the shift from traditional to electronic work cultures using information technology devices. Therefore, the local leaders are part of the stakeholders who enhance the proper implementation of the e-governance services. Supporting the finding, Hatsu & Ngassam (2016) indicated that observing the e-government projects has been noted to be advantageous to developing nations, but the shortage of assets and funding has progressively hindered the viability of these projects.

It is assumed that suggesting platforms that enhance e-government services and operate persistently in streamlining the process of government projects, such as the use of relevant software, have been noted to lack adequate funding due to infrastructural vulnerabilities. As further supported by the study of Parung et al. (2018), it was indicated that infrastructure barriers to e-government execution include a shortage of ICT, the lack of automation, the lack of adequate policies, poor ICT culture and enabling legislation. Therefore, the presence of these barriers amplifies the vulnerabilities of e-government services.

6.5 Improving e-Government in Nigeria with an Organisational Development Framework

Approach	Objective	Implementation
Optimal Organisational Structure	Improve the efficiency through institutional development	Redesign government bureaucracy for Public Service-wide efficiency
Technology Enabled Culture	Enable a digital culture	Digital transformation of the Public Service
Communication and Collaboration	Increase inter-ministerial transparency and cooperation	Integrate E-Government platforms
Foster Change	Improve ease of technology adoption in service delivery	Effective technology adoption in the Public Service
Innovation and Technology	Increase public services delivered through electronic platforms	Relevant technology for effective Public Service delivery
ICT Infrastructure Funding and Management	Increase investments in ICT infrastructure	Strategic partnerships for ICT infrastructure investments
Effective Monitoring	Increase E-Government performance	Mechanisms for continuous improvement of E-Government services

Table 6.1: High-level organisational development framework for improving e-government in Nigeria.

As noted in the study, an organisational development framework could improve e-government services in Nigeria through ensuring an optimal organisational structure and technology-integrated culture, communication and collaboration, fostering change, innovation and technology, ICT infrastructure funding and management, and effective monitoring.

6.5.1 An Optimal Organisational Structure and Technology-Integrated Culture

Organisational culture is the shared values, norms, and practices that shape how an organisation operates and performs. In the context of public sector digitalisation, culture plays a critical role in determining how effectively organisations respond to technological change and innovation (Schein, 2017). A strong and supportive organisational culture has been shown to enhance

efficiency, facilitate innovation, and improve the implementation of complex initiatives such as e-government by aligning employee behaviour with organisational goals.

However, organisational structures and deeply embedded cultural norms may also constrain progress by reinforcing the status quo and limiting openness to new practices. In many public sector organisations, rigid hierarchies and entrenched routines can impede adaptability and slow the adoption of digital government initiatives (Vial, 2019). Conversely, cultures that promote collaboration, learning, and calculated risk-taking are more likely to support innovation and sustain digital transformation efforts over time.

In the public sector, digital government initiatives often require significant changes in employee roles, workflows, and decision-making processes. Altering internal organisational culture and administrative procedures is therefore essential for building the institutional capacity needed to support digital transformation (OECD, 2020). Nevertheless, government organisations may resist such changes due to bureaucratic traditions and institutional inertia, which can undermine enterprise-wide e-government performance if not adequately addressed (Mergel, Edelmann, & Haug, 2025).

Strong organisational cultures are common in e-government services, and these cultures can either help or hinder the success of various efforts, including e-government projects and initiatives. Government agencies may find it more difficult to stay up-to-date with advancements due to the rapid pace of technological change, particularly when rigid cultures resist innovation and adaptability (Gil-Garcia et al., 2018; Mergel et al., 2025). This may further highlight the government agencies' readiness to pivot and adjust their operations. Under such circumstances, any e-government endeavour may result in a fall in government performance rather than a positive shift.

6.5.2 Communication and Collaboration

Effective communication and collaboration are central to organisational development frameworks and play a critical role in the successful implementation of e-government services. Digital government initiatives depend on structured information exchange across government entities to enhance transparency, reduce administrative duplication, and improve service delivery outcomes. Empirical studies indicate that well-designed digital communication systems support coordination across public organisations and strengthen internal and external collaboration, thereby improving public sector performance (Gil-Garcia et al., 2018).

Collaborative e-government processes involve coordinated actions among autonomous public institutions and external stakeholders to jointly deliver public services through digital platforms. These processes typically combine technical infrastructures—such as interoperable systems and shared digital architectures—with organisational and governance arrangements that define responsibilities and accountability. Research in digital government highlights that collaboration is not driven by technology alone but also by organisational communication practices that enable information sharing, trust-building, and joint decision-making (Cordella & Paletti, 2019).

Enhanced communication and collaboration across government agencies also contribute to greater transparency and service integration. Integrated digital financial and administrative systems illustrate how coordinated information flows can improve accountability and streamline public sector operations. Evidence from digital government research shows that inter-agency collaboration enabled by shared digital platforms reduces redundancy, accelerates administrative processes, and supports more effective policy implementation (Gil-Garcia et al., 2018).

Despite these advantages, challenges persist. Limited digital competencies among public servants can constrain the effective use of collaborative technologies, while entrenched

bureaucratic structures often discourage data sharing across organisational boundaries. Resistance to change and siloed organisational cultures therefore remain significant barriers to achieving the level of communication and collaboration required for sustainable e-government implementation. Studies emphasise that addressing these organisational and cultural constraints is as important as investing in digital infrastructure (Mergel, 2025).

6.5.3 Change, Innovation and Technology

By encouraging organisational change, innovation, and the strategic adoption of digital technologies, a well-structured organisational development framework can significantly enhance the effectiveness of e-government services. Public institutions can improve service delivery, operational efficiency, and citizen engagement by fostering a culture that supports continuous improvement and digital transformation. Recent digital government scholarship demonstrates that organisational readiness and adaptive capacity are critical determinants of successful e-government implementation, particularly where technology is embedded within broader institutional reform efforts (Gil-Garcia et al., 2018).

However, e-government is not defined by technology adoption alone. Rather, technology functions as an enabling instrument that supports deeper transformations in how governments design, deliver, and manage public services. Contemporary studies emphasise that digital tools only generate value when aligned with organisational goals, institutional capacity, and service-oriented reforms (Cordella & Paletti, 2019). In this regard, e-government reflects a shift in governance practices rather than a purely technical upgrade, reshaping how governments interact with citizens, businesses, and other stakeholders.

Organisational capability, including institutional learning and change management, has been widely recognised as a key factor influencing the uptake and sustainability of digital government initiatives. Research across public administration and information systems highlights that governments with stronger organisational development frameworks are better

positioned to leverage digital technologies for innovation, coordination, and performance improvement (Mergel, Edelmann, & Haug, 2025). These capabilities support not only the adoption of new systems but also the long-term institutionalisation of digital practices.

Furthermore, recent evidence indicates that emerging technologies such as artificial intelligence, cloud computing, and digital identity platforms can enhance transparency, efficiency, and trust in public service delivery when embedded within supportive organisational structures. In Nigeria, for example, digital financial identification systems such as the Bank Verification Number (BVN) have contributed to improved financial security and broader digital inclusion. Nonetheless, infrastructural limitations continue to constrain the full adoption of digital services in many public institutions.

Studies on digital government in developing contexts consistently show that inadequate ICT infrastructure, limited technical skills, and reliance on manual administrative processes remain persistent barriers to digital transformation (Lee & Porumbescu, 2019). As a result, many public organisations operate hybrid systems in which digital tools coexist with traditional paper-based processes. Addressing these infrastructural and capacity-related constraints is therefore essential for organisational development frameworks to fully support the implementation and sustainability of e-government services.

6.5.4 ICT Infrastructure Funding and Management

Public-Private-Partnership (PPP) allows governments to take advantage of private-sector funds, technology, and knowledge. PPPs are a crucial tactic for enhancing e-government services. PPPs in e-government projects can be implemented more successfully with the help of a well-organised organisational development framework. As noted by Masenge and Chewa (2019), PPPs ensure effective e-government service delivery by assisting in the construction of data centres, broadband networks, and ICT hubs. For instance, the Galaxy Backbone in Nigeria was created as a PPP to supply government agencies with ICT infrastructure.

Also, to issue National e-ID Cards, the National Identity Management Commission (NIMC) works with private entities. In support of the finding, government and private sector partnerships have been shown to improve digital service delivery by outsourcing functions such as digital identity platforms, tax administration, and other ICT-enabled services to firms with specialised capabilities (Li & Guo, 2024). Partnerships such as these can help reduce financial waste by allowing private investment in digital infrastructure, lessening the financial strain on government. For example, private technology companies collaborated with government agencies in designing and implementing financial systems that improve transparency and coordination. Research on PPP models in digital government construction highlights how collaborative governance structures and shared investment can advance the development of digital government services in public sectors (Li & Guo, 2024; Djatmiko et al., 2025).

6.5.5 Effective Monitoring

Effective monitoring is a critical success factor in the implementation of e-government initiatives, as it enables continuous assessment of progress against predefined objectives, timelines, and performance indicators. In digital government environments, monitoring supports accountability and transparency by linking technical execution with institutional governance structures (Valle-Cruz & García-Contreras, 2025). Through systematic tracking and feedback mechanisms, public organisations are better able to detect implementation gaps early and adjust strategies accordingly.

Recent digital government literature highlights that weak monitoring and evaluation frameworks are a major contributor to e-government underperformance. Janssen, Rana, Slade, and Dwivedi (2020) argue that many digital government projects fail not because of technology limitations but due to inadequate oversight, poor performance measurement, and limited learning during implementation. Effective monitoring therefore plays a central role in ensuring

that digital initiatives evolve in response to organisational realities rather than remaining static technology deployments.

From a project governance perspective, structured monitoring practices are essential for controlling cost, scope, quality, and delivery timelines in complex public sector projects. At the policy level, international evidence shows that governments that embed monitoring and evaluation into digital government strategies achieve more sustainable and resilient outcomes. The OECD (2020) notes that effective monitoring mechanisms enhance institutional capacity, improve resource utilisation, and strengthen public trust by ensuring that digital government reforms deliver measurable public value over time.

If appropriate metrics are not defined, and proper data is not collected and analysed, there is a chance that one will have an incorrect impression of the project's progress during its execution stage. Contrary to the importance of effective monitoring, Turban, et al. (2015) and Wadhwa (2020) noted that effective monitoring is frequently regarded as a crucial element of organisational development frameworks meant to enhance e-government services; nevertheless, their studies contend that placing too much emphasis on monitoring may have unforeseen detrimental effects. In the context of public service reform in developing nations like Nigeria, for example, excessive top-down performance monitoring has come under fire for perhaps encouraging coercive and abusive tactics. Coercive measures, like the deployment of extra-legal surveillance systems to guarantee public officials' adherence to new procedural standards, were a key component of anti-corruption reforms in developing nations, which mostly depended on strict monitoring and prosecution. This method brought up issues regarding the possibility of misuse and the moral ramifications of strict monitoring techniques. Furthermore, although monitoring and sanctioning mechanisms are widely recognised as important anti-corruption tools, recent public administration research cautions that excessive monitoring can generate diminishing returns. Over-monitoring may increase compliance costs,

slow decision-making, and weaken institutional trust, thereby limiting additional integrity gains beyond a certain point. Contemporary governance scholarship emphasises the need for balanced accountability systems that combine monitoring with capacity building, transparency, and organisational learning rather than relying solely on intensified control mechanisms (Valle-Cruz & García-Contreras, 2025). Researchers in a controlled bribery experiment in Ouagadougou, Burkina Faso, found that although low levels of monitoring successfully decreased bribery, higher levels did not result in additional reductions and might even weaken innate incentives to act honourably.

According to these viewpoints, monitoring is crucial, but placing too much emphasis on it in organisational development frameworks for e-government services may result in coercive tactics and not always provide the intended results. Thus, it is essential to strike a balance between monitoring and other tactics that encourage public officials to act morally and with intrinsic drive (Bhushan, 2019).

6.6 Chapter Summary

The chapter focused on the presentation and discussion of the research findings with reference to the research questions. The chapter also proposed a bespoke organisational development framework based on the results of the findings for improving e-government services in Nigeria, which covers the social and technological aspects of the socio-technical theory. The next chapter presents the summary, recommendations and conclusion of the research study. This is followed by the contribution of the thesis to the body of knowledge and the limitations experienced by the researcher during the study. Finally, recommendations are made for further study, and the research conclusion is drawn.

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

The study sought to examine the challenges and opportunities embedded in the implementation of e-government services in Nigeria, with a focus on the Federal Ministry of Communications, Innovation and Digital Economy (FMCIDE). The main research question that guided this study was:

"How can E-Government services be improved from an organisational development perspective in Nigeria?"

This was then broken down into 4 sub-questions:

a) What are the organisational development issues impacting E-Government services in Nigeria?
b) What are the processes related to the implementation of E-Government services in Nigeria?
c) What is the socio-technical concern that must be addressed for the implementation of E-Government services in Nigeria?
d) How can an organisational development framework improve E-Government services in Nigeria?

The objectives of the study were:

a) To determine the organisational development issues impacting e-government services in Nigeria.
b) To explore processes related to the implementation of e-government services in Nigeria.

c) To assess the socio-technical concerns in the implementation of e-government services in Nigeria.
d) To identify an organisational development framework for improving the process of implementing e-government services in Nigeria.

7.2 The Research Overview

This study recognised the need to improve e-Government implementation in Nigeria from a public policy driven organisational development approach to solving the problems confronting the Federal Ministry of Communication, Innovation and Digital Economy (FMCIDE) as it charts the course for other Ministries, Departments and Agencies (MDAs) to facilitate ICT as a key tool in the economic growth of Nigeria and transformation agenda for the entire country.

The study also highlighted how e-government services can enhance public service activities and transparency, and citizen engagement. Furthermore, the study noted that an organisational development framework could improve e-government services in Nigeria through ensuring an optimal organisational structure and technology-integrated culture, communication and collaboration, fostering change, innovation and technology use, supporting Public-Private Partnerships (PPP) and effective monitoring. All the steps and actions taken towards achieving the research aim and objectives were discussed in each chapter.

7.3 Summary of Research Findings

The following are the summaries of the findings based on the research objectives:

a) The first objective of the study indicated some of the organisational development issues impacting e-governance services in Nigeria. This was noted to be bureaucratic delays, change resistance and poor communication. The adoption of e-governance in Nigeria continues to be significantly constrained by bureaucratic delays, which remain a major

obstacle to the effective implementation of digital government services. Rigid administrative structures, procedural complexity, resistance to organisational change, and slow decision-making processes within ministries, departments, and agencies (MDAs) limit institutional responsiveness and slow digital transformation efforts. Contemporary e-government scholarship shows that such bureaucratic characteristics often undermine innovation, reduce coordination across public institutions, and weaken the capacity of governments to implement technology-enabled reforms effectively (Valle-Cruz & García-Contreras, 2025).

The lack of inter-agency collaboration was indicated to be a major part of the delays in the bureaucratic process, as many government organisations operate in silos, which leads to duplication of efforts and a slow approval process. As noted in the study, the issue of resistance to change is the inability of government officials to adopt and adapt to the use of digital technologies instead of manual work processes. This is fueled by the lack of training, fear of job loss and poor digital technological platforms for the public service. The lack of coordination among government agencies was observed to cause poor communication, as many government agencies operate independently, leading to duplicated efforts. Furthermore, it was noted that poor budget allocation to digital infrastructures and capacity building limited the expansion of e-government activities in FMCIDE and Nigeria as a whole.

b) The second objective demonstrated the processes relating to the implementation of e-government services in Nigeria. The processes include Effective monitoring, Electronic Document Management System (EDMS) and Capacity Building. Effective monitoring was noted to help the e-government process, as an organised centralised monitoring system will help track the progress of e-government initiatives, as well as help in defining performance metrics. Effective monitoring will enable the use of empirical data

for informed policy decision-making by the Government. Moreover, on the EDMS as a process of e-governance in Nigeria, this will help in the digitisation and the digital transformation of the public service in Nigeria.

The implementation of an Electronic Document Management System (EDMS) enables the transition from manual paperwork to digital records, thereby improving data accessibility, security, and administrative efficiency. EDMS supports structured storage, version control, and rapid retrieval of documents, reducing the risks associated with physical records such as loss, duplication, and unauthorised access. When integrated with digital and cloud-based environments, EDMS further enhances organisational accountability and information governance within public sector institutions. Empirical studies on digital records management confirm that effective electronic document systems are critical to improving transparency, operational efficiency, and service delivery in government organisations (Lappin, 2020). Furthermore, EDMS also facilitates inter-agency document sharing, which helps to improve collaboration among these agencies as well as reduce bureaucratic delays. Regarding capacity building, an effective digital literacy training will help build the capacity of civil servants, which is a critical need. Establishing IT support systems in all Ministries, Departments and Agencies (MDAs) was noted to help build capacity among the civil servants and improve their digital literacy.

c) The third objective focused on the socio-technical concerns that must be addressed for the implementation of e-government services in Nigeria. It was demonstrated in the study that data privacy and security, infrastructural vulnerabilities and funding, digital acceptance and literacy are critical elements that must be in place for effective e-government implementation. As noted in the study, data privacy plays a critical role in protecting sensitive government and citizen information from cyber threats and misuse.

Consequently, data privacy and security must remain absolute priorities in the implementation of e-government systems. Where strong data protection regulations, governance mechanisms, and enforcement structures are lacking, public trust in digital government platforms is significantly weakened, thereby limiting adoption and overall effectiveness. Recent empirical research on digital government confirms that privacy protection, trust, and responsible data governance are central determinants of successful e-government implementation and long-term citizen engagement (Zuiderwijk et al., 2021). On infrastructural vulnerabilities and funding, it was noted that addressing the poor internet connection and the unreliable electricity in the country will aid the effective process of e-government implementation in Nigeria. The inconsistent power supply in Nigeria has made some digital platforms ineffective. Recent studies indicate that insufficient government investments in ICT infrastructure, limited budget allocations, and unreliable power supply significantly hinder the implementation of digital government initiatives (Madueke & Eyupoglu, 2024).

d) The fourth objective demonstrated ways an organisational development framework improves e-government services in Nigeria through promoting an optimal organisational structure and technology-integrated culture, communication and collaboration, fostering change, innovation and technology, ICT infrastructure funding and management, and effective monitoring. An organisational development framework will support the effective implementation of e-Government services in Nigeria by justifying the organisational structure and culture needed to foster innovation, adaptability and collaboration for e-government services. An optimal organisational structure and culture will not only bring about development in e-government, but also ensure efficiency and effective project implementation.

Good communication and collaboration are important components of an organisational

development framework, as this promotes the effective implementation of e-government services. Through communication and collaboration, governments make use of ICT to support their internal and external process effectively. It was noted that this also promotes transparency and efficient implementation of e-government services.

Public institutions can improve service delivery, efficiency, and citizen involvement by cultivating a culture of continuous improvement and technological use. This is because fostering an organisational climate of change will bring about innovation in public service delivery, which in turn improves the implementation of e-government services.

ICT infrastructure funding and management are extremely important for national development. A viable national ICT infrastructure is necessary for the development of reliable technologies that promote the adoption and implementation of e-government services. Furthermore, Public-Private-Partnership (PPP) allows governments to take advantage of private-sector funds, technology, and knowledge, and PPPs are crucial for enhancing e-government services.

7.4 Contribution to Academic Knowledge

This thesis contributes to existing literature on e-government implementation with regard to the research context and the specific focus on improving e-government services using an organisational development framework. There is limited study on how organisational development framework improves e-government implementation in Nigeria, and many e-government studies are focused on the e-government policy formulation and governance since they use different sources of data, research methods and metrics. This study, however, looked deeply into the technicalities of e-government implementation from a private sector lens using an organisational development approach.

7.5 Limitations of the Study

Like any other study, this research was also challenged with some limitations. One of the primary limitations of the study is the focus on civil servants from FMCIDE. Hence, the findings of the study may not necessarily apply to other MDAs in Nigeria. Furthermore, this sample size limits the capacity to extrapolate the results to other MDAs in Nigeria. Despite every attempt to choose a broad set of participants, the civil servants of the FMCIDE may not have the same experiences and challenges as workers of other MDAs in Nigeria or around Africa.

Another limitation of the study is its reliance on self-reported data collected through focus groups and semi-structured interviews. Although this method provides insightful personal information, it may be biased by the participants' memories and perceptions, and they may be reluctant to fully disclose sensitive or stigmatising experiences. Additionally, there is a chance of response bias, where some participants may underreport certain issues, especially those related to data and organisational issues, out of fear of being laid off.

Also, there was a time limit on the study, which restricted the scope of the data collection and analysis. Although valuable insights can be gathered during this period, a long-term analysis of the FMCIDE workers' experiences and workers' access to past information is not possible. This little time frame might also restrict the variety of events that can be included in the study, especially those that occur in various institutional settings.

7.6 Implications for Improving E-government Services

Based on the practical findings from this study, several implications for practice for the Federal Ministry of Communication, Innovation and Digital Economy, State and the Nigerian Government have emerged:

a) To address some organisational Development issues impacting e-government services in Nigeria, it is recommended that the Federal Government, through the FMCIDE

implement digital workflow systems which create transparency and accountability, effective communication systems, and simplify administrative procedures to guarantee the timely implementation of e-government services.

b) On the process relating to the implementation of e-government services in Nigeria, it is recommended that, in tracking the development of e-government projects, the Federal Government, through the FMCIDE should set up a strong real-time performance tracking system. To guarantee the efficacy and efficiency of the e-governance service delivery, audits and impact analyses should be carried out regularly.

c) On the socio-technical concern that must be addressed for the implementation of e-government services in Nigeria, it is recommended that the Federal Government should strengthen cybersecurity policies, improve ICT infrastructures, increase government funding of the ICT sector, and promote public awareness of e-government services.

d) To improve organisational development framework and to improve e-government services in Nigeria, it is recommended that government entities should have a defined organisational structure to enhance decision-making, accountability and service delivery. Also, government should enhance communication and collaboration, invest in technological innovations and invest in a change management system like employees continuous training.

7.7 Directions for Future Research

There are directions for further studies in every research, and this research is not an exception. Therefore, this study proposes the following recommendations, which are discussed below:

a) The organisational development framework developed for improving e-government services based on the seven (7) elements in Nigeria should be further studied.

b) At the time of this study, the National Digital Economy and E-Governance Bill, 2024, was still a draft and had not yet been passed. The bill proposes an organisational

structure, among others. How this structure interfaces with the organisational development structure for improving e-government services is also recommended for further study whenever the (draft)The National Digital Economy and E-Governance Bill, 2024, has been passed and implemented.

c) The research was conducted in the Federal Ministry of Communication, Innovation and Digital Economy, as the Ministry responsible for driving economic growth through digital technology and innovation. However, a lot of e-government services are implemented by other MDAs. It is also recommended that a comparative study on the effectiveness and maturity of implementation services be conducted.

7.8 Research Conclusion

From the analysis and findings, it was apparent that improving Nigeria's e-government services depends on a systematic strategy that involves the need to understand issues impacting e-government services in Nigeria, processes relating to the implementation of e-government services, some of the socio-technical concern that must be addressed for the implementation of e-government services in Nigeria and how an organisational development framework can improve e-government services in Nigeria. However, it has already been established that through an optimal structure and technology-enabled culture, effective communication and collaboration, engendering change and innovation and technology, encouraging investments in ICT infrastructure funding and management, as well as effective monitoring, an organisational development framework can improve the implementation of e-government services in Nigeria.

Therefore, the study achieved what it set out to do – explore the organisational development challenges to improving the implementation of E-government services in Nigeria.

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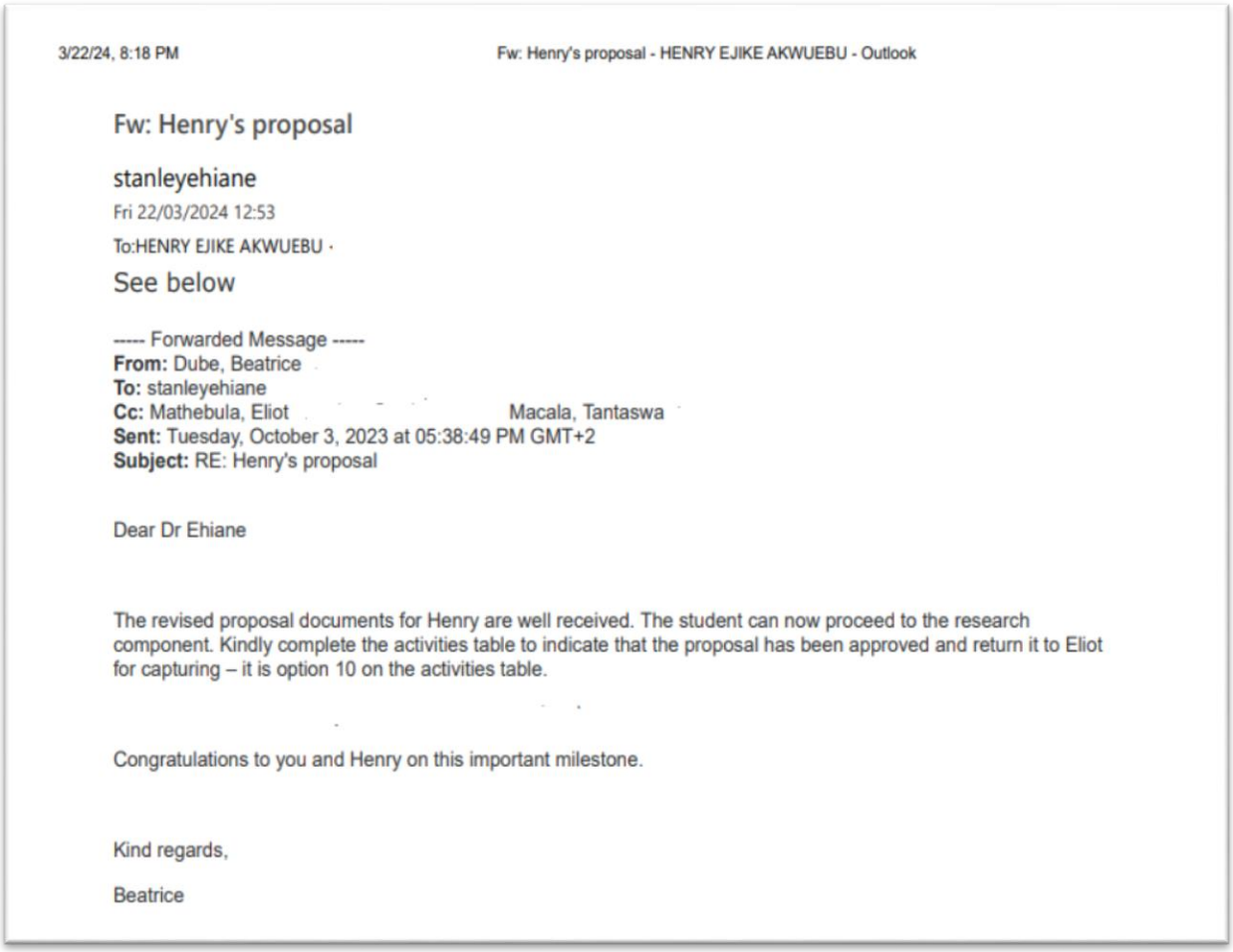
Appendices

Appendix 1: Scientific Review Approval



3/22/24, 8:18 PM Fw: Henry's proposal - HENRY EJIKE AKWUEBU - Outlook

Fw: Henry's proposal

stanleyehiane

Fri 22/03/2024 12:53

To:HENRY EJIKE AKWUEBU ·

See below

----- Forwarded Message -----
From: Dube, Beatrice
To: stanleyehiane
Cc: Mathebula, Eliot Macala, Tantaswa
Sent: Tuesday, October 3, 2023 at 05:38:49 PM GMT+2
Subject: RE: Henry's proposal

Dear Dr Ehiane

The revised proposal documents for Henry are well received. The student can now proceed to the research component. Kindly complete the activities table to indicate that the proposal has been approved and return it to Eliot for capturing – it is option 10 on the activities table.

Congratulations to you and Henry on this important milestone.

Kind regards,

Beatrice

Appendix 2: Ethical Clearance Certificate

UNISA university of south africa

College of Human Sciences_CREC

NHREC Registration # : (Rec-240816-052)
Ref #: 3066
Name: Mr Henry Akwuebu
Student #: 19605463

Date: 15/08/2024

Dear: Mr Henry Akwuebu

Decision: Ethics Approval from 15 August 2024 to 14 August 2025

Researcher: Mr Henry Akwuebu
Plot 524 Ken Nnamani Crescent, Wuye District
Abuja
19605463@mylife.unisa.ac.za +234 8036460181

Supervisor: Dr Stanley Ehiane stanleyehiane@yahoo.com

Improving E-Government Services Implementation in Nigeria: An Organizational Development Perspective

Qualification: Doctor of Philosophy in Development Studies (90178)

Thank you for the application for research ethics clearance by the College of Human Sciences_CREC for the above-mentioned research study Ethics approval is granted for one year.

The **low-risk application** was **reviewed** by the College of Human Sciences_CREC on **15 August 2024** in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College of Human Sciences_CREC.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.

5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
7. No field work activities may continue after the expiry date (**14 August 2025**). Submission of a completed research ethics progress report will constitute an application for renewal, for Ethics Research Committee approval.

Additional Conditions

1. Disclosure of data to third parties is prohibited without explicit consent from Unisa.
2. De-identified data must be safely stored on password protected PCs.
3. Care should be taken by the researcher when publishing the results to protect the confidentiality and privacy of the university.
4. Adherence to the National Statement on Ethical Research and Publication practices, principle 7 referring to Social awareness, must be ensured: "Researchers and institutions must be sensitive to the potential impact of their research on society, marginal groups or individuals, and must consider these when weighing the benefits of the research against any harmful effects, with a view to minimising or avoiding the latter where possible." Unisa will not be liable for any failure to comply with this principle.

Note

The reference number 3066 should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Kind regards,

Prof Khatija Khan
Chair of College of Human Sciences_CREC

Professor Omwoyo Bosire Onyancha
Executive Dean / By delegation from the Executive Dean of College of Human Sciences_CREC

Appendix 3: Request for Permission to Conduct the Study

UNISA university of south africa

04.03.2024

Engr. Faruk Yusuf Yabo
Permanent Secretary
Federal Ministry of Communications, Innovation and Digital Economy
FCT Abuja
Nigeria

Dear Engr Faruk Yusuf Yabo,

Request for permission to conduct research at the Department of E-Government, Ministry of Communications, Innovation and Digital Economy, Federal Republic of Nigeria

I, Henry Ejike Akwuebu am doing research with Dr. Stanley Ehaine, an academic in the Department of Political and Administrative Studies, University of Botswana towards a PhD in Development Studies at the University of South Africa. We are inviting you to participate in a study entitled, "Improving the Implementation of E-Government Services in Nigeria: An Organizational Development Perspective."

The aim of the study is to explore the organizational development challenges impacting the implementation of E-government services in Nigeria. The Federal Ministry of Communications, Innovation and Digital Economy has been selected for this study because the Ministry is responsible for facilitating information communication technology as a key tool in the transformation agenda for Nigeria in the areas of job creation, economic growth and transparency of governance.

The aim of the study is to explore the organizational development challenges impacting the implementation of E-government services in Nigeria. The Federal Ministry of Communications, Innovation and Digital Economy has been selected for this study because the Ministry is responsible for facilitating information communication technology as a key tool in the transformation agenda for Nigeria in the areas of job creation, economic growth and transparency of governance.

The study will assess the National E-Government Master Plan and E-Government Capacity Building Program. The benefit of this study is to contribute to identifying the organizational development challenges impacting the implementation of e-government services in Nigeria.

The knowledge from this research can help to solve existing organizational development challenges and improve how e-government initiatives are implemented in Nigeria generally.

The potential risks in this study are staff time commitments and challenges of group dynamics.

An anonymized report of the findings will be shared with the Ministry in 36 months.

Yours sincerely,

Mr. Henry E. Akwuebu
The Researcher
19605463@mylife.unisa.ac.za

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392, UNISA 0003, South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Appendix 4: Research Permission Approval Letter

FEDERAL REPUBLIC OF NIGERIA

MINISTRY OF COMMUNICATIONS AND DIGITAL ECONOMY

20th March, 2024.

Mr. Henry E. Akwuebu,
Researcher from the University of South Africa.

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT THE DEPARTMENT OF E-GOVERNMENT, MINISTRY OF COMMUNICATIONS, INNOVATION AND DIGITAL ECONOMY, FEDERAL REPUBLIC OF NIGERIA

The Ministry humbly received your letter dated 4th March 2024 on the above subject.

2. Given the above, the Ministry through the e-Government Department is willing to participate in the study entitled, "Improving the Implementation of E-Government Services in Nigeria: An Organizational Development Perspective."

3. We are aware that this study has two (2) components to be assessed; namely (I) National E-Government Master Plan and (II) E-Government Capacity Building Program, which will explore the organizational development challenges impacting the implementation of E-Government services in Nigeria.

4. Hence, ***Mr. Obisesan Kola*** (Senior Programme Analyst): ***Tel. No.: 07031091041*** and ***email address:*** obisesan.kola@fmcide.gov.ng from the e-Government Department of the Ministry have been assigned to work with you toward the accomplishment of this study.

5. Wishing you success.

Onuche James Akwu
Deputy Director (e-Government)
For: Permanent Secretary

P.M.B. 12578, Federal Secretariat Complex, Phase 1, Annex III, Shehu Shagari Way, Abuja.
e-mail: info@commtech.gov.ng.

Appendix 5: ATLAS.ti Thematic Analysis

RQ1	**What are the organizational development issues impacting E-Government services in Nigeria?**		
Themes	Bureaucratic Delays	Change Resistance	Ineffective Communication
Codes	▪ OD Issues ▪ Absence of Organizational Framework ▪ Bureaucracy ▪ Bureaucratic Process ▪ Corruption Concerns ▪ Enduring Bottlenecks ▪ Government Bureaucracy ▪ Government Procedures ▪ High Bureaucracy ▪ Outdated Procedures ▪ Rigid Processes ▪ Rigid Public Service ▪ Rigid Structures ▪ Slow Decision-making ▪ Streamline Bureaucratic Processes ▪ Widespread Corruption	▪ Adapt to Technological Changes ▪ Absence of Organizational Framework ▪ Breakdown Cultural Barriers ▪ Cultural Issues ▪ Ingrained Reluctance to Change ▪ No Continuity in E-government ▪ Prevent the Launch of 5G Network ▪ Reduce Resistance ▪ Resistance to Change	▪ Communication Gaps ▪ Breakdown in the Bridges of Communication ▪ Communication Breakdowns ▪ Effective Communication Frameworks ▪ Poor Coordination ▪ Siloed Operations
RQ2	**What are the processes related to the implementation of E-Government services in Nigeria?**		
Themes	Effective Planning and Monitoring	Electronic Document Management System (EDMS)	Capacity Building
Codes	▪ Effective Planning ▪ Coordinated Planning ▪ Efficient Planning and Oversight ▪ Improved Planning ▪ Inconsistent Processes ▪ Limited Collaboration ▪ Maintenance and Planning Processes ▪ Monitor and Respond ▪ Monitoring Activities of MDAs ▪ Monitoring and Evaluating ▪ Performance Metrics ▪ Plan Effectively ▪ Poor Coordination Mechanisms ▪ Stakeholder Feedback	▪ Automation of Approvals ▪ Centralized Document Repository ▪ Digital Document Submissions ▪ Digital Workflows ▪ Document Sharing ▪ Electronic Document Management System (EDMS) ▪ Reduced Document Processing Times ▪ Secure Document Sharing ▪ Standardizing Workflows	▪ Insufficient Training ▪ 3 Million Technical Talent (3MTT) Initiative ▪ Invest in Continuous Capacity Building ▪ Investment in Continuous Learning Opportunities ▪ Knowledge Transfer Workshops ▪ Promote Capacity Development ▪ Re-training of Civil Servants ▪ Targeted Training ▪ Training Initiatives ▪ Workshops and Seminars
RQ3	**What is the socio-technical concern that must be addressed for the implementation of E-Government services in Nigeria?**		
Themes	Data Privacy and Security	Infrastructural Deficits and Funding Challenges	Digital Acceptance and Literacy
Codes	▪ Cybersecurity Vulnerabilities ▪ Cybersecurity Protocols ▪ Data Privacy and Security ▪ Data Protection Laws ▪ Enforce Privacy Policies ▪ Maintain Security Standards ▪ Privacy by Design ▪ Security Concerns ▪ Transparency in Data Handling	▪ Budget Limitations ▪ Address Infrastructure Gaps ▪ Careful Resource Management ▪ Challenge of Equipment and Funding ▪ Challenges of Funding Constraints ▪ Financial Constraints ▪ Frequent Power Outages and Funding Gaps	▪ Amplify Digital Literacy Campaigns ▪ Acceptance of e-government Services ▪ Address Digital Exclusion ▪ Bridge Digital Literacy Gaps ▪ Citizens Participation ▪ Digital Literacy ▪ Digital Services ▪ Digital Submissions

		▪ Funding Limitations ▪ Funding Shortages ▪ Funding Uncertainty ▪ Inadequate Infrastructure ▪ Infrastructural Technological Obsolescence ▪ Invest in ICT Infrastructure ▪ Lack of Adequate Funding ▪ Limited Resources and Funding ▪ Power Fluctuations ▪ Prioritize ICT Infrastructure Investment ▪ Resource Limitations ▪ Strengthen Infrastructure ▪ Sustainable Funding Solutions	▪ Digitization ▪ Expand Digital Literacy Programs ▪ Sustained Investment in Digital Literacy

Appendix 6: Informed Consent

PARTICIPANT INFORMATION SHEET

10/10/2023

Title: Improving the Implementation of E-Government Services in Nigeria: An Organizational Development Perspective.

Dear Prospective Participant

My name is Henry Ejike Akwuebu and I am doing research with Dr Stanley Ehaine, an academic researcher in the Department of Political and Administrative Studies, University of Botswana towards a Ph.D Development Studies degree at the University of South Africa. We are inviting you to participate in a study entitled "Improving the Implementation of E-Government Services in Nigeria: An Organizational Development Perspective."

WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to collect important information that could contribute to identifying the organizational development challenges impacting the implementation of e-government services in Nigeria. The knowledge from this research can help to solve existing organizational development challenges and improve how e-government initiatives are implemented in Nigeria generally.

WHY AM I BEING INVITED TO PARTICIPATE?

Why did you choose this particular person/group as participants?

The Federal Ministry of Communications, Innovation and Digital Economy is a Ministry created in 2011 as Ministry of Communication Technology. It was created to foster a knowledge based economy and information society in Nigeria. The Ministry was created to facilitate ICT as a key tool in the transformation agenda for Nigeria in the areas of job creation, economic growth and transparency of governance. The interviews and focus groups will be held in the meeting rooms of the Ministry. I will meet directly with the relevant civil servants in the

Ministry to ask for contact details and permission to conduct the interviews and focus group discussions.

For interviews, the intended sample size will be 30 or more civil servants, as well as a minimum of two Directors from the e-Government Department within the Federal Ministry of Communications, Innovation and Digital Economy. While for the focus group discussions, the intended sample size will be 10-15 members. Members will consist of civil servants from managers to clerks that are directly involved in the E-Government initiatives under study. There will be no more than 3 focus groups with the same composition to make it easy for group discussions.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

The study involves focus groups and semi-structured interviews. The interviews will be conducted in private to protect interviewees' responses and each session will last no more than 60 minutes. There will be 3 focus group sessions lasting no more than 90 minutes. The questions for both interviews and focus groups will center on the implementation of the E-Government services.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

By taking part in the study, you can contribute to identifying the organizational development challenges to improving the implementation of E-government services in Nigeria. The knowledge from this research can help to solve existing organizational development challenges and improve how e-government initiatives are implemented in Nigeria generally and consequently improve Nigeria's E-Government Development Index (EGDI).

ARE THEIR ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

Potential inconvenience/risks of taking part in the study are:

- Time commitment: Due to your potential length, research interviews and focus groups can be inconvenient for certain participants with hectic schedules.
- Group dynamics: When participating in a focus group, you may be reluctant to express your thoughts or ideas in front of others, particularly if you believe that others share a different opinion from their own.
- You may feel intimidated by other participants when discussing certain topics in a group settings.
- Social stigma: you may experience social stigma or prejudice from others who disagree with their opinions or beliefs if the research issue is delicate or contentious.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research OR your name will not be recorded anywhere and no one will be able to connect you to the answers you give. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

My supervisor will have access to the data and he will maintain confidentiality by signing a confidentiality agreement.

Please be aware that your anonymized data might also be utilised for other things, such a research report, journal articles, or conference proceedings. We guarantee that your anonymity will be safeguarded in any publishing of the data; while a study report may be submitted for publication, individual study participants won't be named in it. Please be aware, however, that it may not always be possible to guarantee confidentiality or anonymity, such as when focus groups are utilised as a technique of data collecting.

Focus groups are a type of research technique where a small group of individuals are gathered to talk about a certain subject. Insights and opinions from participants in a focus group are gathered with the intention of using them to guide decision-making or more study. While every effort will be made by the researcher to ensure that you will not be connected to the information that you share during the focus group, I cannot guarantee that other participants in the focus group will treat information confidentially. I shall, however, encourage all participants to do so. For this reason, I advise you not to disclose personally sensitive information in the focus group.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

The researcher does not intend on keeping any hard copies of the data and electronic information will be stored on a password protected computer for a period of 5 years for future research. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. Electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

There won't be any payment or reward for participating in the study.

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has received written approval from the Research Ethics Review Committee of the University of South Africa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact Henry Ejike Akwuebu. The findings are accessible from 24 months.

Should you require any further information or want to contact the researcher about any aspect of this study, please email 19605463@mylife.unisa.ac.za

Should you have concerns about the way in which the research has been conducted, you may contact Dr Stanely Ehaine or email stanelyehaine@yahoo.com. Alternatively, contact the research ethics chairperson of the College of Human Sciences – Department of Development Studies Prof Janice Moodley, moodljk@unisa.ac.za

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

Henry Ejike Akwuebu

Appendix 7: Interview Guide

General Questions: For All

1. What is your name?
2. What is your job title?
3. For how long you have worked in the Federal Ministry of Communication, Innovation and Digital Economy (FMCIDE)?
4. How long have you been in this position in the FMCIDE?
5. What is your role in the implementation of the e-government services?

Specific Questions: Social Sub Systems

People

1. What are the people challenges affecting the successful implementation of e-government services in the FMCIDE and what strategies have been proposed to address these issues?
2. What types of capacity-building and training services are in place to equip Federal Civil Service Staff with the necessary skills and knowledge to support e-government service improvements?
3. What is the approach to involving private sector expertise and collaboration in enhancing the skills and knowledge of FMCIDE staff?
4. How do you see the role of leadership and change management in driving the successful implementation of e-government services?
5. What are the change management strategies employed to help Federal Civil Servants adapt to new processes and technologies?

Structure

6. What are the existing structural issues within the FMCIDE that impact the implementation of e-government services, and what strategies have been proposed to address these issues?

7. What are the specific challenges in the existing organizational structure of the FMCIDE that have been identified as barriers to effective e-government service delivery?

8. What are the challenges in building cross-Ministry/Agency collaboration and coordination to ensure a unified approach to e-government service implementation, and how can these issues be overcome?

9. How does the FMCIDE address issues related to resource allocation, budget constraints, and transparency in the implementation of e-government services?

10. What strategies or frameworks have been employed in the FMCIDE to enhance e-government services, and what have been their outcomes?

11. How has the workflow in the Federal Civil Service changed due the implementation of the e-government services?

12. How do you balance the need for security and data protection with the goal of delivering more open and accessible e-government services as part of the improving e-government services?

Specific Questions: Technology Sub Systems

Technology

13. What are the existing technology challenges within the FMCIDE that impact the implementation of e-government services, and what strategies have been proposed to address them?

14. How does the FMCIDE balance the need for technological advancement with socio-technical concerns, such as the potential for digital exclusion or the risk of data breaches, to promote responsible and inclusive e-government services in Nigeria?

15. How is data security and privacy ensured during the collection and processing of sensitive information in the context of e-government service implementation?

16. What measures are in place to evaluate the effectiveness and efficiency of the implementation processes, and how is feedback from citizens and stakeholders incorporated to drive service improvements?

17. What are the challenges and opportunities in ensuring the sustainability and resilience of the technology infrastructure supporting e-government services in the face of service disruptions and threats?

18. What is the current state of workflow (paper based or digital) in the FMCIDE and the Federal Civil Service?

19. What are the changes in technology /ICT infrastructure that are required in the Federal Civil Service due to the implementation of the e-government services?

20. How are emerging trends in technology, such as 5G connectivity or edge computing, being considered to improve e-government services in Nigeria?

Processes

21. What are the process challenges within the FMCIDE that impact the implementation of e-government services, and what strategies have been proposed to address them?

22. How are government agencies and parastatals coordinated to ensure a cohesive approach in the implementation of e-government services, and what challenges exist in this regard?

23. What are the plans for improving the implementation of e-government services?

24. Are there any legal or regulatory challenges that need to be addressed when implementing a change management/organizational development framework for e-government services by the FMCIDE?

25. How are issues of accountability and transparency integrated to ensure that e-government services in Nigeria are delivered efficiently and ethically?

26. What processes have been employed in the FMCIDE to enhance e-government services, and what have been their outcomes?

27. How are end-users and citizens integrated into the process of improving e-government services?

28. What recommendations do you have for policymakers and stakeholders looking to increase Nigeria's EGDI index?

Appendix 8: Focus Group Guide

1. What are the people challenges affecting the successful implementation of e-government services in the FMCIDE and what strategies have been proposed to address these issues?

2. What are the existing structural issues within the FMCIDE that impact the implementation of e-government services, and what strategies have been proposed to address these issues?

3. What are the existing technology challenges within the FMCIDE that impact the implementation of e-government services, and what strategies have been proposed to address them?

4. What are the process challenges within the FMCIDE that impact the implementation of e-government services, and what strategies have been proposed to address them?

5. What recommendations do you have for policymakers and stakeholders looking to improve Nigeria's EGDI index?

Appendix 9: Socio-Demographic Information of the Participants

Job Title	Years of work Experience	Years in current Role	Work Status	Role in E-Governance Implementation
Interview				
System innovation and knowledge management	10 years	8 years	Senior staff	Road map strategizing
Assistant Chief Programme	10 years	3 years	Senior staff	Monitoring and Evaluation
Principal Programme Analyst	12 years	3 years	Senior staff	Designing and Implementation
Senior Programme Analyst	11 years	4 years	Senior staff	Program Design and implementation
Senior Data Processing Officer	9 years	3 years	Senior staff	Program Design
Deputy Director e-government	5 years	1.5 years	Junior staff	Ensure E-governance implementation
Principal Programme Analyst	10 years	2 years	Senior staff	Policy Design and Implementation
Senior Program Analyst	12 years	3 years	Senior staff	Monitoring
Assistant Chief Programme	6 years	3 years	Junior staff	Program Designing
Focus Group Discussion 1				
Assistant Chief Programme	10 years	3 years	Senior staff	Monitoring and Evaluation
Principal Programme Analyst	12 years	3 years	Senior staff	Designing and Implementation
Senior Programme Analyst	11 years	4 years	Senior staff	Program Design and implementation
Senior Data Processing Officer	9 years	3 years	Senior staff	Program Design
Deputy Director e-government	5 years	1.5 years	Junior staff	Ensure E-governance implementation
Principal Programme Analyst	10 years	2 years	Senior staff	Policy Design and Implementation
Senior Program Analyst	12 years	3 years	Senior staff	Monitoring
Focus group Discussion 2				
Assistant Chief Programme	6 years	3 years	Junior staff	Program Designing
System innovation and knowledge management	10 years	8 years	Senior staff	Program strategy
Assistant Chief Programme	10 years	3 years	Senior staff	Monitoring and Evaluation

Principal Programme Analyst	12 years	3 years	Senior staff	Designing and Implementation
Senior Programme Analyst	11 years	4 years	Senior staff	Program Design and implementation
Senior Data Processing Officer	9 years	3 years	Senior staff	Program Design
Junior Programme Analyst	6 years	4 years	Junior staff	Program Design
Data Processing Officer	7 years	3 years	Junior staff	Program Design