



**TOWARDS AN INTEGRATED E-GOVERNMENT
FRAMEWORK FOR HOUSING AND URBAN DEVELOPMENT
AGENCIES: A CASE STUDY IN LAGOS STATE NIGERIA**

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DECLARATION

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DEDICATION

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ABSTRACT

The urgent demand for efficient and effective delivery of housing and urban development services, especially building permit services to facilitate housing development necessitated this study. Housing and Urban Development Agencies (HUDAs) are important government service delivery sectors, where the implementation of an integrated electronic government (e-Government) is a necessity. In the present Lagos State of Nigeria, anecdotal evidence and insight indicates that the process of acquiring development permits has proven extremely difficult, whereby citizens have to consult diverse agencies before obtaining their permits. This condition has created gaps between the citizens' expectations and services rendered by the Lagos State HUDA.

Consequently, this study proposes a conceptual framework for integrating the Lagos State Government HUDA. The framework is underpinned by technology-organisation-environment model and complemented with some elements of drivers-barriers and three-quarter moon models. The study adopts a case study approach which focuses on government to government and government to citizens in the Lagos State HUDA. Moreover, an in-depth investigation of the agencies' information technology was conducted utilising both primary and secondary sources. The main data collection instrument used was interview and complemented with questionnaire.

From the research findings, the factors (technological, organisational and environmental), the perceptions (barriers, benefits and risk) as well as the major stakeholders and their activities influencing integrated e-Government implementation in the Lagos State HUDA were determined. These were compared with those expounded in the existing literature, although some were specifically applicable to the Lagos State HUDA context.

Based on the thematic analysis of the qualitative data and the statistical analysis of the quantitative data, some factors were newly derived while others were validated from the

research findings. These factors were used to examine and validate the conceptualised integrated e-Government framework statistically. Hence, an innovative model that provides a holistic perspective for the implementation of integrated e-Government in the Lagos State (i-eGovF4Lag) HUDA was developed. The framework would contribute to a new generation of knowledge in the electronic government field and also help the policy makers to identify and proffer solutions to the challenges hindering the successful implementation of ICT initiatives in Nigeria and other developing nations.

Keywords: E-Government, Framework, HUDA, Integration, Lagos State,

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Some of the elemental strategies of people-centred governments across the globe are to cut down their administrative costs, accomplish greater efficiency and effectiveness in government performance, and to deliver cost effective services as well as valuable and timely information to its beneficiaries such as the citizens, organisations and societies. Hence, governments around the world devote immense resources to research related to these objectives/activities. It is hoped that by exploring new techniques and technologies that can be employed in different sectors of the government, it would translate to the efficient use and application of ICT in public agencies. However, this endeavour must be underpinned by sound ICT policies and guidelines to strengthen its implementation.

The emergence of Information Technology (IT) has incontrovertibly influenced government establishments, private and public sectors in carrying out their administrative functions. The public agencies globally are saddled with the increasing demand to reform their policies and make the government more answerable to the necessities of its nationals. In order to meet these challenges of public sector service management, the application of ICT for service delivery to the citizens has obviously become inevitable. Information Technology (IT) which is otherwise commonly referred to as Information and Communication Technology (ICT) can be defined as a diverse set of electronic devices used to generate and communicate, store, distribute and manage information based on the combination of computing and telecommunication technology (Ulka & Millindi, 2012).

Wilkinson (2014) asserts that in this present and emerging society, there is an increase in the importance of information and communication resulting in new expectations and demands, in relation to government operations which have become more conspicuous. Governments will therefore be required to respond to the challenging growth by increasing access to

information and its operations held by the government, and lower barrier and accessibility cost. Adesida (2001) stresses further that ICT is hypothetically proficient in manipulating the ways in which most public services are conveyed, as well as the relationship between the citizens and governments. Moreover, ICT offers three important change potentials within the government context which are: support- for facilitating an existing task and process; supplant- use of ICT for automating tedious and repetitive tasks particularly when it comes to storing, processing and communicating information; innovate- the use of ICT in undertaking new processes and tasks that are not yet existing. Additionally, the use of ICT has the ability to transform the relationship between citizens and government agencies, by enhancing the delivery of government services to the public (Jones, Davies & Muir, 2003).

Among the numerous effects of ICT and the digital revolution are the practicality and potential of expanding the productivity and adequacy of government open offices. Under appropriate conditions, ICT offers governments in developing nations efficient resources to serve the people and other beneficiaries through digital means, which is otherwise referred to as an electronic government system (Quinta & Sirajul, 2013). Universally, governments are incorporating PC based technology into the centre fold of public administrative transformation in order to computerise processing and delivery of government services (International Telecommunication Union [ITU] Report, 2008). The services include online completion and submission of building development permits, online business applications, driver's license applications and renewals, online voters' registration, online payment of fines, fees, utility bills and taxes, employment information or application, and electronic newsletter to business owners or residents (ITU Report, 2008).

Furthermore, the United Nations E-Government Survey (2016) affirms the opportunities offered by the application of ICTs in government – improving service delivery and citizen engagement, and assisting in mobilizing additional resources from both the private and public sectors to enhance collaboration of stakeholders and innovation. However, many of these functions of e-Government applications remain a mirage to developing African countries especially those in Sub-Saharan Africa (SSA).

The term “e-Government” as described by Palvia and Sharma (2007) is the application of information technology with the use of the Internet to boost government service provision to the populace, businesses and other branches of the government round the clock. Governments across the world are already instituting e-Government as an essential strategy in their operations in public agencies. Moreover, there are many opportunities via the use of the Internet and other technologies for the rationalisation of government activities and to connect efficiently with the citizens it is supposed to serve (Wilkinson, 2014).

Hence, there is a challenge to maximize the use of ICT in raising the capability of government in developing countries, particularly in Sub-Saharan Africa (SSA), to serve the public and consequently improve the conditions of its people (ITU Report, 2008). According to Otubu (2009), the principal objective of every technological innovation is to improve the value of human life.

Based on the circumstances of housing and urban development operations in the state of Lagos in Nigeria, this study explores one aspect of e-Government, namely- to address the challenges confronting the effective operations of the e-Government system in Housing and Urban Development Agencies (HUDAs) in Lagos State, South-West Nigeria. Hence, the study proposes an integrated e-Government framework that is more unified and operates under a common core platform. This integration involves government agencies and parastatals that have similar functions and responsibilities to form an integrated electronic government system. This will serve as a single access point for services and information provided by the different government establishments within the housing and urban development agencies to its beneficiaries such as citizens, organisations and societies.

1.2 Motivation for the Study

Anecdotal evidence and insight indicate that in order to obtain a building permit in Lagos State Nigeria, a good number of agencies and parastatals without collaborative systems are involved in the issuance of the development permits to Lagos State residents. Three of these

agencies are under the control of the same Lagos State Ministry of Physical and Urban Development but operate independently as islands, while the remaining two agencies are self-governing.

Lagos State, South-West Nigeria is being considered in this study because of its strategic economic and socio-political development in Nigeria. In addition, Lagos State being an urban city is most affected by housing and commercial structure needs – a state believed to be able to meet the needs of the growing population. The citizens are now saddled with the responsibility of buying land which is more easily attainable than buying a house provided one has the funds. However, the process of acquiring development permits to build has proven extremely difficult.

In Nigeria, especially the urban cities such as Lagos, it is the responsibility of the state (government) to grant housing development permits to the citizens before construction begins. This is different from the practices in many parts of the world where the local governments or councils are responsible for the issuing of housing development permits to the citizens in order to build. It is common knowledge that housing and commercial buildings are essential for the meaningful development of the people and society at large. If mismanaged, the economy becomes harmful, while the social and financial structure of the government crumbles to the detriment of the citizens and society.

Besides, the Nigerian people are responsible for erecting their own houses or physical structures, provide water and generate their own power to enjoy a steady supply thereof. According to Olayiwola, Adeleye, and Ogunsakin (2005) housing is among the three necessities of mankind, and is the second most important need for man's survival after food. Good housing adds to the achievement of moral and physical health of a nation, and motivates the social stability, work efficiency and growth of the people. The lack of, or poor housing development and its associated problems result in not only the swift development and distribution of slums and squatters of numerous kinds; but also in the proliferation of these settlements in the urban suburb.

The researcher observed that beside the approved statutory fees and transaction cost, securing a development permit from the HUDA in Lagos State more often than not involves many processes. This includes endless paper work, lack of transparency, delay, loss of wages, distrust, corruption, back and forth travelling costs, and abuse of public office. Yet the non-delivery of efficient and effective public services, specifically in the issuing of development permits prevails. The citizens are confronted with a lack of self-owned apartments, an increase in the cost of securing accommodation and office space, the high cost and poor standard of living.

Fragmentation and isolation have been identified as the major problems impeding the Lagos State HUDA from issuing timely development permits to the citizens. Each of the government ministries and agencies took responsibility for developing and maintaining their own official web portals in delivering services and information. This separatism allows the government agencies and ministry's websites to operate as individual islands with little or no communication and integration (Alkhatib, Bataineh, Fraihat & Mammar, 2009; Saleh, Obeidat & Khamayseh, 2013). The lack of an e-Government implementation framework to ensure integrated and customer-centred online service delivery exacerbates the situation or problem experienced in Lagos State HUDA (Kaur, 2006).

There is no doubt that the lack of cooperation among governmental agencies constitute the main impediment to e-Government- as highlighted by Fatile (2012). There is also the absence of harmonised activities within the local, state and federal governments, and agencies of a similar service or among the ones that have comparable obligations or functions. Though, each agency might have its own website, in any case, the linkage between them and the standard framework is missing. This missing linkage renders the e-Government system to be non-interactive. Government agencies develop websites that are non-functional while they inadvertently produce scattered or clusters of information on the Internet. The formation of these decentralised services in turn makes the citizens or customers to move from one office to another seeking public services in the building development permit sector.

Kulshrestha (2013) highlights the fact that a citizen-centric system is to deliver services round the clock, and as a result e-Government portals have to be designed in a way that is integrated with different government ministries, departments and agencies' applications so as to provide access to the citizens and businesses. Kulshrestha (2013) adds that this will help to reduce citizen's waiting time at the counters and help them to use the services outside of their working hours. Weerakkody and Choudrie (2005) opined that problems are multiplied in the government sectors as a result of ineffective and bureaucratic business procedures; and divergent information technologies should be incorporated in an e-Government environment.

Chiang and Hsieh (2007) describe the problem confronting e-Government as duplication of databases and discrepant existing data contents which causes government information to be posted conflictingly on the site thereby casting doubt on the precision of online government information. In the process of maintaining databases, information is copied manually among various systems; this causes several problems to the citizen such as time squandering, maintenance challenges, incorrect information and failure to renew data (Janssen et al., 2005; Chiang & Hsieh, 2007). This over-arching challenge in electronic government is the emergence of different government databases that are not integrated as a result of the fragmentation of government public agencies at all levels.

In order to propel an innovative solution with integrated e-Services there will be greater demands for integration and interoperability of e-Government systems. The transformation from these disparate databases to a technology-enabled network is a worldwide pattern by various societal powers simply like the development of a multifaceted nature of issues that calls for collaborative reactions. The integration of government ministries, departments and agencies (MDA) will allow for information sharing thereby providing opportunities for new services, improved information infrastructure and increased citizen participation. Kunsself and Vintar (2009) maintain that an integrated government system would offer numerous benefits to the consumers of public services from cheaper and faster services to better quality of services.

These initiatives have been embraced by many of the developed countries thereby allowing their public authorities and sectors to be interconnected; so that their citizens and customers can access public services via a single point even if the services are offered by different agencies or departments (Pappa & Makropoulos, 2004). Thus, many of the present day's electronic government development initiatives especially in the developed nations, are made in a one-stop electronic government portal. The electronic services and public information are gathered in a website so as to provide easy access via one medium to the agency. This kind of single access point is made of an integrated platform which offers information and services through a single web portal, even if they are provided by different government agencies or private sectors (Axelsson & Melin, 2008).

The concept of an integrated framework for achieving single access point to services and information in Africa and particularly Lagos State South-West Nigeria is to allow the sharing of information among the government ministries, department and agencies. This will allow business partners and citizens to complete a transaction with a public agency without visiting various ministries and agencies in different physical locations.

This study explores an electronic government phenomenon by determining the needs, benefits and challenges, and to propose an integrated framework that will integrate various services offered by housing and urban development agencies. The framework may be used to improve electronic government systems presently adopted, and to serve as a single access point to information and services offered by the diverse government agencies to the general public. Hence, this study explores the concept of integrated e-Government framework in the HUDA. The context under examination focuses on developing countries with Lagos State, South-West Nigeria as a case study.

1.3 Statement of Problem

The separatism of public services in the Lagos State HUDA, Nigeria has necessitated the undertaking of this research. Drawing from the research motivation presented earlier and the researcher's experience with Lagos State public services, the following issues have been identified:

- Lack of organisational interaction and integration among electronic government portals as each of the government agency has its own separate portal.
- Lack of concrete and comprehensive framework architecture that will provide information sharing or interoperability of electronic government services among different ministries, departments and agencies (MDA)
- Lack of ICT regulatory policy guiding the ICT infrastructure in the state.
- Absence of a unified technology platform among government ministries, departments and agencies.
- Lack of awareness of all the diverse opportunities and functionalities the concept can offer.
- Fragmentation of services, increase in transaction costs, waste of time and resources.
- Endless paper work, duplication and long processing of data
- Lack of transparency, corruption and distrust

The issues identified above highlight the problem of separate public service systems and sub-systems for different public services, that is, all the government agencies and parastatals within the HUDA in Lagos State which are responsible for issuing development permits to their residents, do not have an architectural framework that will integrate their e-Government portals to allow interaction and information sharing for the benefit of their recipients. This aligns with Fatile's (2012) study, which identifies lack of cooperation among governmental agencies as an issue which constitutes another major challenge to e-Government.

It is apparent that there is a gap in the interactions among the Ministries, Departments and Agencies (MDA) to deliver the HUDA services (G2G); and between beneficiaries'

expectations of the HUDA services and what the HUDA provides (G2C, C2G). The reasons for such gaps have not yet been investigated. As a result of the gaps, the citizens are usually confronted with lack of self-owned apartments, increase in cost of securing accommodation and office space, and poor standard of living. Thus, the economy becomes harmful, while the social and economic structure of the state crumbles to the detriment of the citizens and the society.

The potential that an integrated e-Government system offers has not been explored at all in terms of improving public service delivery. Government to government (G2G) is a term that refers to the interaction and communication among government agencies, whereas government to citizen (G2C) allows the citizens to interact with the government.

To date, few studies have been published that examines a holistic approach or the integration of an e-Government system in Nigeria, but none is specifically for Lagos State housing and urban development agencies. Consequently, the procedures and operations of an integrated electronic government framework for the HUDA in Lagos State, Nigeria is being investigated with the intention of addressing the identified gaps in the present situation. The problem statement is delineated into research questions listed in the next section.

1.4 Research Questions

In order to address the problem statement this study is guided by two main research questions, namely:

- What factors influence the implementation of integrated e-Government services in HUDA?
- How can the identified factors assist to build a holistic integrated e-Government framework for HUDA?

These two questions are broken down into the following sub-questions:

- (i) To what extent do technological factors influence the implementation of an integrated electronic government in the HUDA?

- (ii) How do organisational factors influence the implementation of an integrated electronic government in the HUDA?
- (iii) To what extent do environmental factors influence the implementation of an integrated electronic government in the HUDA?
- (iv) How can the perceived benefits influence the implementation of an integrated electronic government in the HUDA?
- (v) What are the barriers affecting the implementation of an integrated electronic government in the HUDA?
- (vi) How can the roles of the major stakeholders influence the implementation of an integrated electronic government in the HUDA?

1.5 Research Objectives

Two main objectives are thus formulated to address the key issues in this study:

- To determine the factors that influence the implementation of integrated e-Government services in HUDA.
- To develop a holistic integrated e-Government framework for HUDA.

The sub-objectives of the study are therefore stated as follows:

- (i) To determine the extent at which technological factors will influence the implementation of an integrated electronic government in the HUDA.
- (ii) To determine how organisational factors influence the implementation of an integrated electronic government in the HUDA.
- (iii) To determine the extent at which environmental factors will influence the implementation of an integrated electronic government in the HUDA.
- (iv) To ascertain the influence of perceived benefits on the implementation of an integrated electronic government in the HUDA.
- (v) To identify the barriers affecting the implementation of an integrated electronic government in the HUDA.
- (vi) To determine how the roles of the key stakeholders will influence the implementation of an integrated electronic government framework in the HUDA.

The main objectives of this study are in agreement with the United Nations E-Government Survey (2016) goal which recognises sustainable development challenge as fundamentally a task of integration. To meet this challenge, governments should aim at delivering integrated services, between various sectors, and subsectors of the government.

1.6 Significance of the Study

This study is significant, in that it identifies the key factors and perceptions of the citizens with regards to the HUDA, and identifies the gap that exists amongst government agencies (government to government relations), and amongst government and citizens (government-to-citizen and citizen-to-government relations). In addition, the study then proposes an integrated framework that will allow interaction and sharing of information between different government agencies to ensure unified and appropriate implementation of e-Government initiatives. The findings and conclusions of this study will be useful for policy makers and government officials; to guide them towards making appropriate decisions to enhance the Housing and Urban Development Agency's (HUDA) efficiency and thereby improve the quality of life of its citizens.

1.7 Contributions to the Body of Knowledge

As a result of the new and improved system that is proposed in the form of a framework, an innovative idea in the Information Systems discipline will be made. This will contribute to existing literature on integrated e-Government implementation with regard to the research context and the specific focus on evaluation and implementation of integrated e-Government system.

In addition, the proposed framework will enhance the effective delivery of public sector services in developing nations. It will also help developers of e-Government portals to recognise the organisational and technological requirements for an integrated or one-stop e-Government system. Hence, the proposed framework will make innovative contributions

within the context of integrated e-Government implementation for a specialised context – Lagos State HUDA.

Moreover, there may be an element of reflection of socio-economic value that this improved system will have on the community, such as an increase in the confidence of the citizens in their government, which is an essential factor in good governance. It will also help the policy makers to identify and proffer solutions to the challenges hindering the implementation of government ICT initiatives in their countries.

1.8 Research Scope

This research examines the implementation of integrated electronic government in the HUDA in Lagos State, Nigeria. The study focuses on government to government (G2G), government to citizen (G2C) and citizen to government (C2G) domains, and not government-to-employee (G2E) or government-to-business (G2B). The study also explores how the HUDA at the state level interact with one another (G2G) to deliver efficient and effective HUDA's services to its citizens (G2C). The relationships between government to government, government to citizen, and citizen to government (C2G) in the Lagos State HUDA is described in figure 1.1.

The three internal agencies (LASURA, LABSCA and LASPPPA) are under the control of Lagos State Ministry of Physical Planning and Urban Development (figure 1.1) and are responsible for the urban and infrastructural development of the state. Hence, they work together for the core of town planning undertakings within the state. The LSSGO provides survey and land information for the Ministry of Physical Planning and Urban Development, whilst the LIRS is saddled with the responsibilities of collecting taxes and other internally generated revenue for the state.

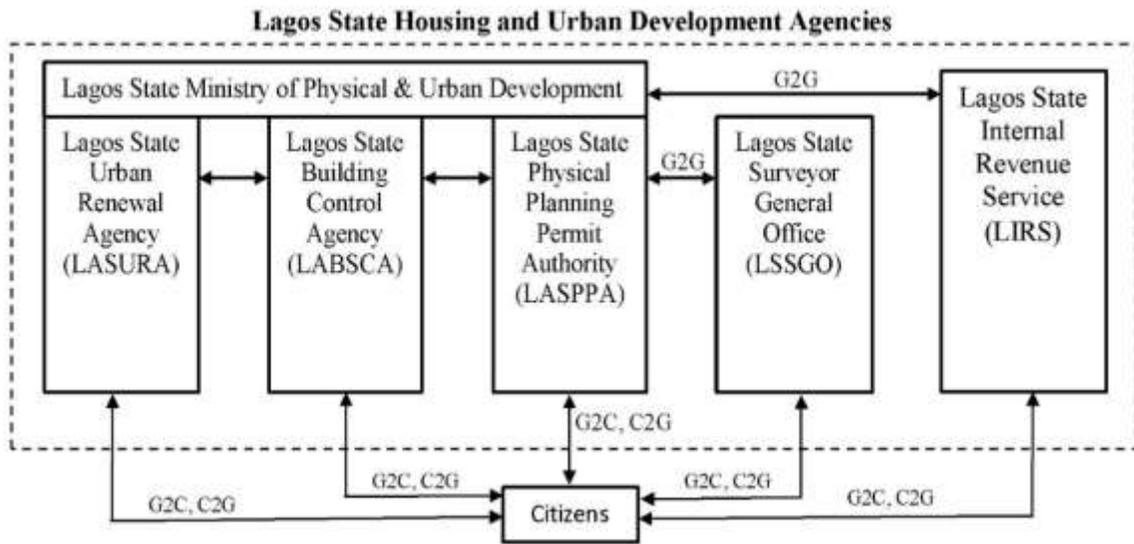


Figure 1.1: Relationship between G2G and G2C in the Lagos State HUDA

1.9 Structure of the Thesis

This thesis consists of eight chapters as shown in figure 1.2. The chapters are structured as stated:

Chapter One - Introduction: This chapter presents the general introduction and background of the research. It then states the problem, research questions and objectives, followed by a brief discussion of the significance, and contribution of this study.

Chapter Two - Literature Review: This chapter presents a succinct introduction of the concept of e-Government and reviews related literature on electronic government implementations. The chapter expounds on the theoretical structure comprising of the key factors (technological, organisational and environmental) and the perceptions (perceived benefits, perceived barriers and perceived risks) influencing the implementation of integrated e-Government. Moreover, the chapter identifies the major stakeholders and their key activities in integrated e-Government implementation. This is followed by the various processes involved in integrated e-Government development from the pre-implementation phase to the post-implementation phase. Additionally, chapter two reviews theories and models in e-Government implementation. The chapter also discourses the gaps in applying each of these

theories and states the reasons for adopting the most suitable models used to propose the conceptual framework.

Chapter Three - Conceptual Framework: This section expounds on the conceptual framework already highlighted in the review and synthesis of literature in chapter two. It also analyses and explains the rationale for adopting different models and theories for the implementation of integrated e-Government. The proposed framework for the Lagos State HUDA identifies the key implementation factors, perceptions and the major stakeholders. Thereafter, the chapter presents an integrated e-Government architecture, the planned framework for the Lagos State HUDA and the strategy to validate the framework.

Chapter Four - Research Methodology: This chapter shows the roadmap followed in conducting the research. 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 is presented. Chapter four also highlights the significance of case study protocol and ethical consideration in conducting a fieldwork research. The final section briefly provides the summary of the entire chapter.

Chapter Five – Case Agency Description and Qualitative Analysis: This chapter concisely describes the map of Lagos State in Nigeria, and the location of the case study of the five public organisations. Moreover, this section presents the rundown of the empirical findings from the qualitative data analysis from the five various case study agencies on the core subject of this study, which has to do with the key implementation factors, perceptions and the major stakeholders influencing integrated e-Government. Finally, an overview of the chapter is provided.

Chapter Six - Quantitative Data Analysis: This chapter presents the case study findings based on a statistical analysis of the quantitative data obtained through the second primary data source, and summarises the empirical findings in tabular form for easy perusal.

Chapter Seven - Discussion and Revisiting the Framework: Having analysed the empirical data in chapter five and six. This chapter discusses the consolidated empirical research findings in line with the research questions and backed up with reviewed literature. The lessons learnt from the consolidated empirical findings are discussed, the revised proposed integrated e-Government framework for the implementation of integrated e-Government in the Lagos State HUDA, founded on the research findings, is described. Consequently, the researcher proposes an innovative integrated e-Government framework appropriate to understand integrated e-Government implementation in the Lagos State HUDA is developed. The last section presents the overview of the chapter.

Chapter Eight - Conclusion: This is the final 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 programme are succinctly highlighted. In conclusion, recommendations for further study to the Lagos State and Nigerian governments are made based on the findings.

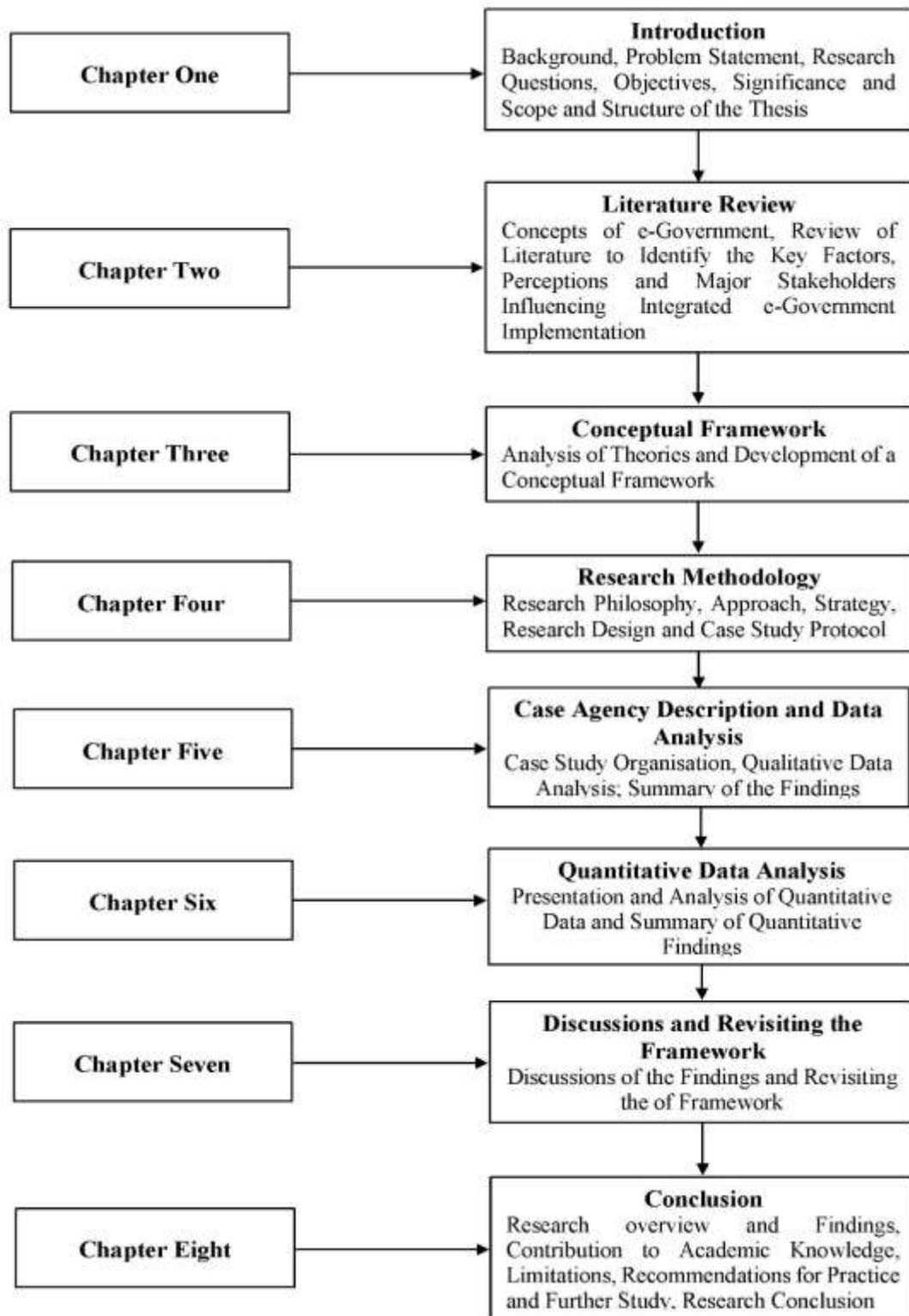


Figure 1.2: Structure of the Thesis

1.10 Chapter Summary

This chapter presented the background to the study on integrated e-Government implementation from the perspective of the housing and urban development agencies in Lagos State Nigeria. The scope of the study has been placed on the interactions among the government public agencies (government to government) and government to the citizens (G2C and C2G). Having highlighted the problem statement, the chapter outlined the research questions, aim and objectives which the study seeks to address. Likewise, the significance and contribution of the study were discussed in this chapter. This was followed by the justification for the study.

Chapter two presents the review of existing literature relevant to electronic government implementation and Information Systems field.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter one introduced the research by presenting the research background and elaborating on the research statement, the key research questions as well as the objectives of the study. The chapter also highlighted the significance and justification for embarking on the study as well as the scope and outline of the thesis.

The aim of this chapter is to lay down the basis of the study by presenting a critical review and detailed analysis of the background literature relating to e-Government implementation initiatives especially integrated e-Government systems. Section 2.2 presents the concepts of e-Government which consists of various definitions of e-Government, types of e-Government and e-Government systems across the globe in Africa as well as in Nigeria. This section also discusses the comparative assessment of e-Government by regions, trends of e-Government growth in some selected African countries and its evolution.

Section 2.3 describes the crux of this study which is integrated e-Government implementation, while section 2.4 presents the factors influencing integrated e-Government implementation and classifies them into technological, organisational and environmental factors. Sections 2.5 to 2.7 discuss the perceptions of integrated e-Government implementation, review the major stakeholders in the implementation phase, and state and explain the different types of implementation initiatives. Section 2.8 describes briefly the common models and theories utilised in the information systems field of e-Government while the last section gives an overview of the whole chapter.

2.2 Concepts of Electronic Government (e-Government)

E-Government emerged as a necessity on the part of government to provide efficient and better services, access to adequate information and inclusion of the citizens in government public policy and decision-making. Electronic government is a comparatively new concept. Just like a considerable number of notions that have emerged amid the incipient stage of the Internet era, electronic government is a formation that is apparently in a relentless condition of advancement (Al-Shafi, 2009).

Nora and Minc (1980) were the first to introduce e-Government in 1979 when they presented a report to the French President on means through which civil and political society could be built using telematics or “telematique”. Telematics refers to the technology that is integrated with computer and telecommunication devices for the purpose of sending, receiving and storing of information. Nora and Minc (1980) describe in their report the manner through which many aspects of society’s daily activities of life, education and health could benefit from telematics using a long-term plan between government and business. However, the idea about e-Government only became significant in 1993 when the United States embarked on its National Performance Review, and the notion progressively was promulgated in 1997 (Heeks, 2007).

Since the emergence of e-Government, its usage has rapidly circulated in the developing nations, which are, as a result of its powerful tool of revolutionising government, increasing efficiency and enhancing transparency. Globally, many countries have identified different reasons for embracing the e-Government initiative. The Organisation for Economic Co-operation and Development [OECD] Report, (2003) sees e-Government as a way to enhance government efficiency, access information and quality of service. It also enables service delivery to the citizens or customers at their convenience. Additionally, e-Government enables citizen involvement in the policy making process, and promotes transparent and accountable government. This helps to build trust between citizens and government, and invariably prevent corrupt practices. However, many studies such as Nkwe (2012), and Jain

and Kesar (2011) have indicated that large numbers of e-Government implementations across the global society, especially developing countries, did not fully succeed due to different barriers and challenges which this study will explore.

2.2.1 Definitions of E-Government

E-government is a relatively recent development that became well defined only a decade ago. Consequently, it is understandable that there is no universally approved standard definition for it, which has led to the different definitions attributed to e-Government (ITU Report, 2008). The terminologies e-Government, e-Governance and digital government are regularly utilised reciprocally to denote the application of information technology in government public agencies. Although the three terms are closely related they do have different meanings. For the purposes of this study the terms are differentiated as follows:

- Digital government can be described as a sunshade comprising “the use of information and communication technologies (ICT) in the public sector” (Garson, 2006, p.18).
- E-Governance is an example of digital government referring to the application of ICTs to support and transform the processes and structures of system governance (Godse & Garg, 2007; Zafiropoulos, Karavasilis & Vrana, 2012). E-Governance is often influenced by a- political leadership that involves, decision implementation, public agency reform, refocusing of the management and structure, and reshaping the democratic processes so as to improve public services (Zafiropoulos et al., 2012). Other terms commonly used for e-Governance but with overlapping meanings include online democracy, electronic democracy (e-Democracy), virtual democracy, tele-democracy, cyber-democracy, online governance and e-Participation (Chem 2008; ITU, 2008).
- E-Government is an example of a digital government, with many definitions due to its relative newness. This study acknowledges the different definitions of e-

Government among various academics, governmental and international agencies. Several definitions of e-Government are presented in table 2.1 with their focus diversity on users' necessities.

Table 2.1: Definitions of e-Government

| S/N | Definitions of E-Government | Perspective | References |
|-----|--|------------------|--|
| 1 | E-Government is defined by UNPAN as the application of information technology such as the internet, wide area networks and mobile computing by government agencies. | Technology | United Nations Public Administration Network [UNPAN] Report, (2011). |
| 2 | E-Government can be described as the sustainable use of information technology for enabling enriched information as well as service delivery; and to encourage citizens' involvement in decision-making. | Technology | Western Cape Government, (2012) |
| 3 | E-Government can be characterised as the utilisation of IT by the government to provide opportunities for businesses and citizens, to conduct and interrelate with the government utilizing diverse electronic media like the Internet, tax, smart card, telephone touch pad, self-service kiosk, and electronic data interchange (EDI). | Interaction | Almaraheh and AbuAli, (2010). |
| 4 | E-Government also refers to the usage of information technologies (ITs), and predominantly the Internet to achieve better governance. | Technology | OECD, (2003). |
| 5 | Furthermore, e-Government can be described as a combination of electronic based administration (e-Administration) with the reinforcement of participating elements (e-Democracy) to accomplish the objective of poised e-Government. | Political | Coleman (2006). |
| 6 | E-Government denotes the utilisation of IT (e.g. the Internet, mobile computing and wide area networks) by government agencies to transform the interactions existing between citizens, business and other forms of government. | Governmental | World Bank Report, (2015). |
| 7 | Lastly, e-Government alludes to the utilisation of any IT based activity to enhance government service delivery to the citizens and supports the organisation's internal operations. | Service Delivery | Maumbe, Owei and Alexander, (2008). |

For this study, the definition given by ITU Report (2008, p.15) is adopted. This is stated as follows:

“E-Government is defined as the use of information and communication technologies in government to provide public services, to improve managerial effectiveness and to promote democratic values and mechanism; as well as a regulatory framework that facilitates information intensive initiatives and fosters the knowledge society”.

The reason for embracing this definition is that it is in line with the objectives of this study. Electronic government is basically designed to serve multiple roles. This includes access to information to empower citizens, improve the delivery of government public services and reduce cost in the delivery of services. E-Government also improves interactions among the citizens and businesses culminating in increased transparency, reduced corruption and accountability, and increase in revenue (World Bank, 2011; Quadri, 2012).

2.2.2 Types of E-Government

There are various activities involved in e-Government. These activities are used to facilitate the relationship between government and their strategic stakeholders namely citizens, employees, business and other forms of government. ITU Report (2008) identifies four distinctive domains for e-Government relationships, namely government-to-business (G2B), government-to-citizen (G2C), government-to-employees (G2E) and government-to-government (G2G). However, this study considers only G2C, C2G and G2G relationships. Figure 2.1 shows that there is a relationship between the government and the key stakeholders earlier identified as citizens, employees, businesses as well as other forms of government.

(i) Government-to-Government (G2G)

This is the first facet of e-Government characterised by online non-commercial interaction and communication among government ministries, departments, agencies and other forms of governments. G2G relationships generally come in two levels which are local and international levels. The local level of G2G involves transactions between local, state, national government and other government agencies and bureaus (Klamo, Huang, Wang and

Le, 2006). The second level of G2G, on the other hand, encompasses transactions between multiple governments which can be used as a tool for international diplomacy (Chavan & Rathod, 2009).

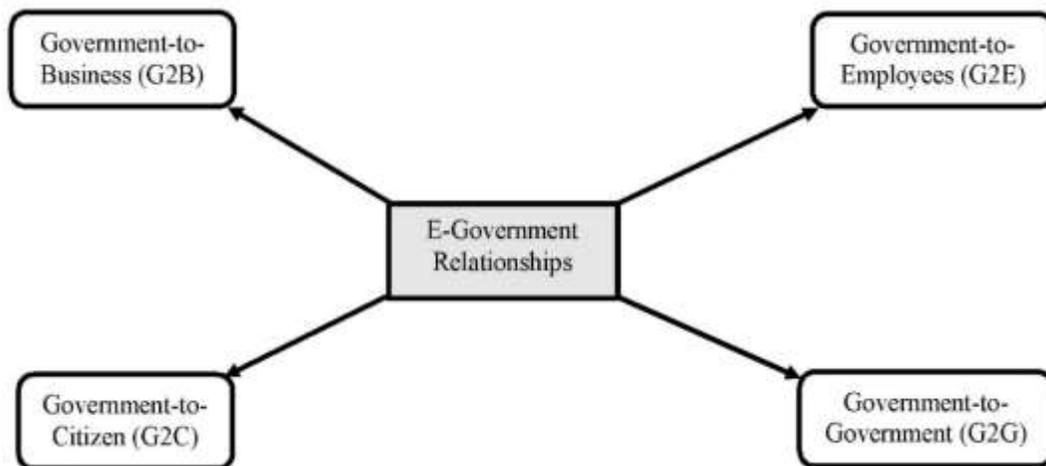


Figure 2.1: Domains of e-Government Relationships

In a considerable number of facets, the G2G relationship is considered to be the backbone of electronic government implementation (Seifert, 2003; Tam, 2010). The aim of many e-Government enterprises in the government-to-government dimension is to improve efficiency at delivery during information transactions and data sharing, within itself or other governments. Examples of G2G are e-Grants as evidenced in the United States, used for providing a single online portal for customers to access and apply for all federal grants, and the “GeBIZ” Enterprise in Singapore used to coordinate what the public agencies’ procurement offices need to purchase (Lee, Tan & Trimi, 2005).

(ii) Government-to-Business (G2B)

This relationship is the second dimension of the e-Government application categorised by online, non-commercial interactions between the government and business sectors. The main aim of G2B is to augment and expedite business transactions between the business sectors and the government by providing business related information and advice. G2B also helps to support digital communication and provide immediate information, thereby alleviating the

difficulties for businesses. Furthermore, the G2B type of e-Government helps to reduce operational costs, saves time and creates a more transparent business environment in dealing with the government. The business transactions in the G2B domain include different types of services traded amongst government and the business agencies, propagation of guidelines and regulation, business polices and memos (Chavan & Rathod, 2009).

The researcher is of the opinion that government partnering with private sectors will help to establish an integrated single source for public services. This will reduce the burden on business because having one single access point to information will eliminate the need to report for similar information separately to numerous sectors. Examples of G2B applications are the Net-Enterprise Project in France, which allows business enterprises to send regular reports to government agencies. The Federal Assets Sales in the USA also creates a one-stop access point for business to find and purchase government owned assets such as e-Procurement, delivery and payment for services and goods supplied over the Internet. (Lee et al., 2005).

(iii) Government-to-Citizen (G2C)

Government-to-Citizen is the third aspect of the electronic government domain. The Western Cape Government (2012) describes government to citizen as interactions between the government and citizens. The interactions may be for the citizens to relate with the government or to consume public services. According to Zhu (2009), one of the key objectives of implementing the government-to-citizen category is to create a one-stop-shop service through which citizens carry out their diverse tasks. The essence of a one-stop-shop is to integrate service processes as well as the contents of the service.

G2C provides various kinds of ICT services to the citizens efficiently and economically thereby reinforcing government and citizens' relationship through technology. According to Al-Shafi (2009), the G2C relationship helps the e-Government to convey an extensive set of services and information to the citizens. These services include research information,

business and employment openings, tax filing, license registration and renewal, payments of fines and feedback of complaints to the appropriate authority.

Examples of G2C applications are, the single-access-point for European citizens (An EU-project) which supports the citizens to travel within Europe, and the Singaporean e-Citizen Portal which provides a single access point of contact for citizens to access information and services provided by the government. In addition, the US “GovBenefits.gov” provides a single access point for the citizens to detect and ascertain potential eligibility for government services and benefits (Lee et al., 2005; Abdalla, 2012).

(iv) Government-to-Employee (G2E)

G2E is the fourth major interaction in the e-Government delivery model and is conceivably the least adopted of all the dimensions. The G2E is basically designed to incorporate government to citizens’ services that accommodate only government employees, such as providing training and development programmes to improve daily government tasks and communicating with the public (Chavan & Rathod, 2009). The G2E dimension is used to empower government staffs to support the people in the quickest and most suitable manner, optimise governmental solutions and speed up administrative processes (Al-Shafi, 2009).

Islam and Ahmed (2007) emphasise that G2E aims at using ICT to decrease costs and enhance the quality of administration within government agencies. Several countries like Hong Kong, New Zealand and the United States adopt G2E as an effective way of providing e-Learning to their employees, and bringing employees together for the sharing of knowledge. Besides this, G2B provides the opportunity for employees to access information regarding policies and compensation, civil right laws and opportunities to train and learn.

2.2.3 E-Government across the Globe

The digital revolution and development in ICT has motivated many governments across the globe to integrate e-Government into their national economic planning. E-Government has become an increasingly crucial public service tool for many governmental ministries,

agencies and departments across the globe (Nour, AbdelRahman & Fadlalla, 2008). This was confirmed in the United Nations E-Government Survey Report (2014) which reports that there has been increasing evidence that e-Government has played an active and facilitating role in advancing national development. This evidence is common among the UN member states of one hundred and ninety-three (193) since the United Nations began e-Government assessment in 2001. The UN E-Government Survey (2014) invented the “Indication E-Government Development Index (EGDI)”, an indicator for measuring the progress made by the UN member countries (Nigeria inclusive) in implementing e-Government services (UN e-Government Survey, 2014).

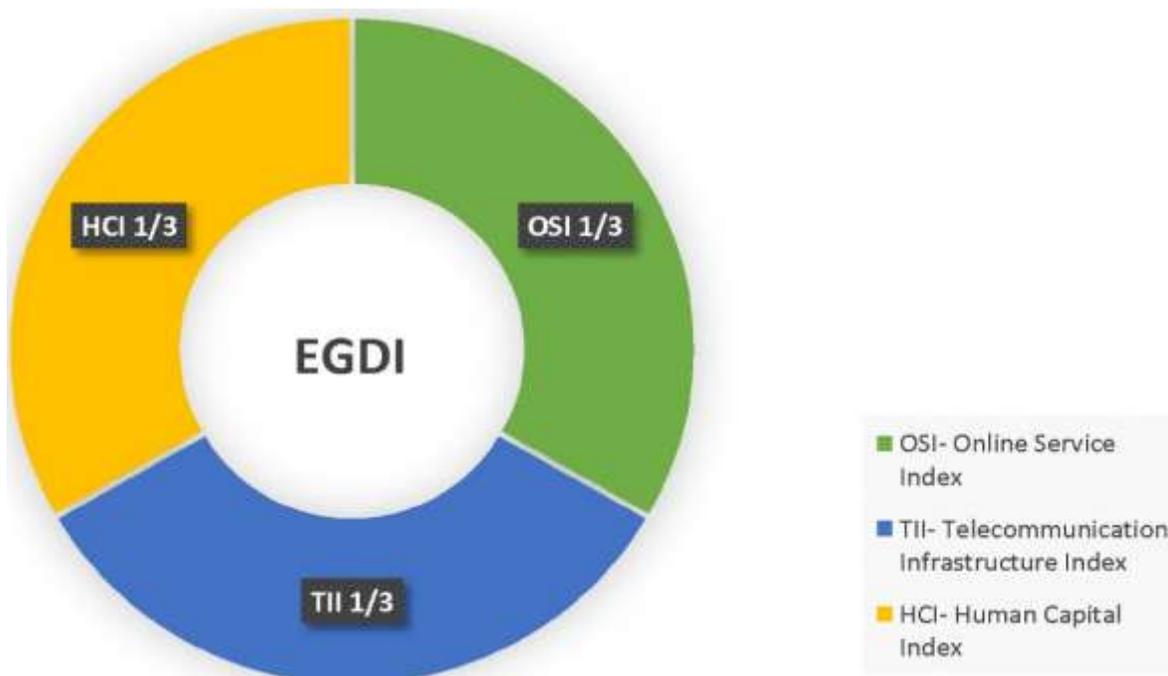


Figure 2.2: Components of the E-Government Development Index (EGDI)

(Source: UN E-Government Survey 2014, p. 14)

As shown in figure 2.2 above, the EGDI is composed of three important indices of e-Government, namely: online service, telecommunication connectivity and human capacity. The online service index measures the phase of development of government websites, whilst the telecommunication connectivity determines the capacity of the country's ICT

infrastructure. The human capital index, on the other hand, measures the information access index. Globally, there is a paradigm shift in the aim of electronic government, which involves cost reduction and adding public value to the lives of the people in a wide-ranging manner. Amongst the twenty-five top countries in e-Government across the globe, the Republic of Korea has the highest EGDI of 0.9462 - considered to be the world e-Government leader, followed by Australia (0.9103) and Singapore occupies the third position with an EGDI of 0.9076. Albeit, the rest of the countries are from Europe, Asia, and Oceania (UN E-Government Survey, 2014). There was no country from the African continent among the first twenty-five world e-Government leaders. This further substantiates the importance of this study.

This study addresses some of the basic factors such as telecommunication infrastructure, provision of online services and human capital that are affecting e-Government implementation in Africa. The researcher would have classified e-Government development across the globe under developed and developing countries, however some developing countries have already emerged among the top twenty-five (25) countries. Hence, the researcher considers e-Government in Africa as the next important and relevant area of discussion in this study.

2.2.4 E-Government in Africa

It may be somewhat difficult to precisely trace the origin of electronic government in Africa but it became prominent in early 1996. Since then, the African Information Society Initiative (AISI) constituted by African Ministers of Planning and Economic Development has recommended e-Government initiatives for the entire region (Hafkin, 2009). E-Government has arrived in almost all African countries, although it is basically a foreign concept based on an imported approach. The African continent constitutes two distinct regions which are North Africa and Sub-Saharan Africa (SSA). Sub-Saharan Africa, excluding some Southern Africa Development Countries (SADC) like Botswana, Namibia, Mauritius and South Africa encounters substantial socio-economic and political problems (UN E-Government Survey, 2014).

The progress of e-Government in Africa remains uneven and relatively slow. The major challenge affecting e-Government development in Africa is largely functional literacy and a lack of infrastructure which have resulted in Africa having a less than world average E-Government Development Index (EGDI) of 0.4712, with the exception of six countries (UN E-Government Survey, 2014). Table 2.2 displays the 20 top-ranked African countries with a regional average EGDI of 0.2661. The six countries in Africa that have an EGDI above the world average are Tunisia, Mauritius, Egypt, Seychelles, Morocco and South Africa. This places them among the high ranked 50 per cent of the world. On the contrary, 16 countries (about 30 per cent) of the fifty-four African nations are at the bottom, which is 10 per cent of the world ranking (UN E-Government Survey, 2014).

Table 2.2: Twenty (20) Top Ranked Countries in Africa in 2014

| | Country | Region | EGDI | 2014 Rank | 2012 Rank | Change in Rank |
|----|------------------|--------------|--------|-----------|-----------|----------------|
| 1 | Tunisia | Upper Middle | 0.5390 | 75 | 103 | ↑28 |
| 2 | Mauritius | Upper Middle | 0.5338 | 76 | 93 | ↑17 |
| 3 | Egypt | Lower Middle | 0.5129 | 80 | 107 | ↑ 27 |
| 4 | Seychelles | Upper Middle | 0.5113 | 81 | 84 | ↑ 3 |
| 5 | Morocco | Lower Middle | 0.5060 | 82 | 120 | ↑38 |
| 6 | South Africa | Upper Middle | 0.4869 | 93 | 101 | ↑ 8 |
| 7 | Botswana | Upper Middle | 0.4198 | 112 | 121 | ↑9 |
| 8 | Namibia | Upper Middle | 0.3880 | 117 | 123 | ↑6 |
| 9 | Kenya | Low | 0.3805 | 119 | 119 | - |
| 10 | Libya | Upper Middle | 0.3753 | 121 | 191 | ↑70 |
| 11 | Ghana | Lower Middle | 0.3735 | 123 | 145 | ↑22 |
| 12 | Rwanda | Low | 0.3589 | 125 | 140 | ↑ 15 |
| 13 | Zimbabwe | Low | 0.3585 | 126 | 133 | ↑7 |
| 14 | Cape Verde | Lower Middle | 0.3551 | 127 | 118 | ↓9 |
| 15 | Gabon | Upper Middle | 0.3294 | 131 | 129 | ↓2 |
| 16 | Algeria | Upper Middle | 0.3106 | 136 | 132 | ↓4 |
| 17 | Swaziland | Lower Middle | 0.3056 | 138 | 144 | ↑6 |
| 18 | Angola | Upper Middle | 0.2970 | 140 | 142 | ↑ 12 |
| 19 | Nigeria | Lower Middle | 0.2929 | 141 | 162 | ↑ 21 |
| 20 | Cameroon | Lower Middle | 0.2782 | 144 | 147 | ↑ 3 |
| | Regional average | | 0.2661 | | | |
| | World average | | 0.4712 | | | ↑ 12 |

(Source: UN E-Government Survey, 2014, p. 22)

Tunisia has the highest EGDI (0.5390) to be the African leader and 75th in a global position in e-Government implementation. Mauritius occupies the second position (0.5338) in Africa and 77th position globally, while Egypt occupies the third position with EGDI of 0.5129 and is ranked 80th globally. However, the whole of Africa demonstrates a regional digital divide in infrastructure and internet activity, with the exception of a few countries like Tunisia, Egypt, Mauritius, Morocco, Seychelles and South Africa (UN E-Government Survey, 2014).

Table 2.3 shows the latest e-Government ranking trend lines of African countries in the world. The top five performers are Mauritius at the 58th position world ranking; Tunisia at 72nd position, South Africa at 76th, Morocco at 85th, Seychelles at 86th, whilst Nigeria (the subject of the current study) occupies the 143rd position.

Table 2.3: Top 10 Countries for e-Government in Africa in 2016

| | Country | Sub-Region | EGDI | 2016 Rank |
|----|--------------------------|-----------------|--------|-----------|
| 1 | Mauritius | Eastern Africa | 0.6231 | 58 |
| 2 | Tunisia | Northern Africa | 0.5682 | 72 |
| 3 | South Africa | Southern Africa | 0.5546 | 76 |
| 4 | Morocco | Northern Africa | 0.5186 | 85 |
| 5 | Seychelles | Eastern Africa | 0.5181 | 86 |
| 6 | Cape Verde | West Africa | 0.4742 | 103 |
| 7 | Egypt | Northern Africa | 0.4594 | 108 |
| 8 | Botswana | Southern Africa | 0.4531 | 113 |
| 9 | Libya Arab Jamahiriya | Northern Africa | 0.4322 | 118 |
| 10 | Kenya | Eastern Africa | 0.4186 | 119 |

(Source: UN E-Government Survey, 2016, p. 113)

The above trend indicates that more countries in Africa are advancing towards higher levels of e-Government except for Egypt that has dropped from high-EGDI to medium-EGDI. It can be inferred that some African countries are increasingly responding to their citizens' varied and complex needs and the persistent call for new, better and efficient public services. There is also growing recognition of e-Government to support sustainable development in the three dimensions, economic growth, social inclusion and environmental protection (UN E-Government Survey, 2016).

In spite of the remarkable development, there are a few additional challenges that should be tended to for strategic e-Government growth. Governments need to formulate and control effective policies that will support private collaboration, reduce access costs of mobile broadband, and support ICT private enterprise. Emphasis should also be on the digital divide and connectivity, especially in the rural areas of Sub-Saharan African regions where connectivity is almost non-existent (UN E-Government Survey, 2014). Quadri (2012) asserts that six factors are relevant to e-Government development in Africa. Hence, the question: are the data systems, legal infrastructure, institutional infrastructure, human and technological infrastructure, strategic thinking and leadership poised for development?

With regard to the effort and investments made to improve collaboration and exchange of data among various government public organisations, the level of integration and interoperability is still insufficient. Government agencies continue to operate disjointedly from citizens' viewpoint thereby compelling them to interact with different agencies to meet their requests (Soares & Amaral, 2011).

Prior studies have not been able to show convincingly that an integrated e-Government framework can achieve a single access point for services in Sub-Saharan African countries, particularly Nigeria. For example, Kirui and Kemei (2014) in their study only observed a lack of coherent usability framework for designing and deploying usable e-Government services in developing countries (e.g. Kenya). The scholars further linked high failure of most e-Government projects in developing countries to poor usability.

Moreover, most of the existing studies (e.g. Jain & Kesar 2011; Nkwe 2012; Nkohkwo & Islam 2013; UN E-Government Survey, 2016) focus on the challenges and factors affecting electronic government implementations in developing nations; and not on a holistic approach or a more integrated form of delivering services and information to the general public in Sub-Saharan Africa especially Nigeria.

To substantiate the researcher's claim, the accurate ranking of Sub-Saharan African nations with regards to e-Government implementation is different simply because countries within this region are seldom mentioned in academic literature (Schuppan, 2009; Quinta & Sirajul, 2013). Nevertheless, the emergence of an integrated framework for achieving a single access point for services and information has been a subject of discussion for about a decade in the developed world. Only a few countries have recorded achievements and to the researcher's knowledge there have not been any recorded achievements in developing nations, specifically in Sub-Saharan Africa. This was supported by the United Nations E-Government Survey (2016) report which identifies sustainable development challenge as essentially a task of integration which should aim at delivering integrated services among the various public sectors and other human endeavours.

This study recognises the contributions of different research scholars who claim that the successful implementations of e-Government in African countries has been hindered by various challenges (Quadri, 2012; UN E-Government Survey, 2014; UN E-Government Survey, 2016). Although, the present-day position of electronic government services in Africa has not been well documented (Rorissa & Demissie, 2010). Only a few writers have focused their investigations on e-Government implementations in African nations (Mwangi, 2006; Chango, 2007; ITU, 2008; Rorissa & Demissie, 2010). While others who included Africa in their current works on e-Government have concentrated more on Europe and the United States (Lee et al., 2005; Olphart & Damodaran, 2007; UN E-Government Survey, 2014).

The researcher contends that the momentous progress made so far on e-Government development in Africa is worth being documented and in that regard should attract intellectual attention. Additionally, the deliberate and radical endeavours made by different national governments in Africa in improving e-Government implementation as proven by e-Readiness programmes and government approaches without doubt calls for academic consideration.

2.2.5 E-Government in Nigeria

In an effort to promote efficient and effective service delivery to citizen electronically just like the rest of the world, Nigeria has embraced e-Government resourcefulness. In line with the Nigeria vision 20:2020 whose mission is to wholly integrate information technology into a knowledge-based economy, it introduced e-Applications which is referred to as the use of ICT in all areas of human life. This includes e-Government, e-Learning, e-Agriculture, e-Health and e-Commerce (National ICT Policy, 2012).

The e-Government in Nigeria is referred to as “National e-Government Strategies” (NeGSt). Its vision is to implement e-Government at various phases with an approach that will promote transparency, proficient service delivery with growing citizens-government interaction, while at the same time tapping into the economic viability of the ventures. The mission on the other hand is to build a national ‘info-communication’ infrastructure that will be able to facilitate e-Government as well as additional pertinent activities that will provide information technology driven deliveries for the benefits of Nigerian citizens (National e-Government Strategies [NeGSt], 2012). Conversely, it is discouraging to hear from the Nigeria Ministerial Committee on ICT Policy Harmonisation draft on National ICT Policy that a lack of basic infrastructure, the right legal framework, and reasonable and dependable services amount to the major problems in the provision of these online services in the country (National ICT Policy, 2012).

Ashaye and Irani (2013) itemise the barriers hindering e-Government implementation in developing nations such as Nigeria as socio-cultural setbacks, economic constrictions, infrastructural as well as technical problems, change management and resistance to change among civil servants. Azeez, Abidoye, Adesina, Agbele and Oyewole (2012) affirm these obstacles to e-Government by further detailing the challenges as fraud, dearth of ICT expertise, low ICT budgetary allocation, illiteracy, reduced energy and power factors, poor maintenance culture, organisational attitude and poor remuneration for ICT staff.

In addition, many government agencies are only developing websites as exhibits whilst they unintentionally create scattered clusters of information on the Internet. The formation of these decentralised services according to Kaur (2006) in turn makes the citizens go from one office to another, and waste unnecessary time when seeking government public services. The lack of an integrated electronic government implementation framework for efficient service delivery only serves to worsen the condition.

The United Nations Public Administration Network [UNPAN] Report (2005) categorised the challenges confronting e-Government growth in Nigeria into three major groups depicted in figure 2.3 which are institutional, infrastructural and human capital problems. The e-Government implementation in Nigeria is just like other African or developing countries. In 2014, Nigeria had an e-Government development index of 0.2929, which is an improvement over an index of 0.2676 in 2012 (Table 2.3). The world and regional average e-Government development indices for 2014 are 0.4712 and 0.2661 respectively. Nigeria is ranked 141 globally and 19 behind other African countries according to the United Nations E-Government Survey (2014). Figure 2.3 is a diagrammatic representation of the problems and challenges that need attention in e-Government implementation.

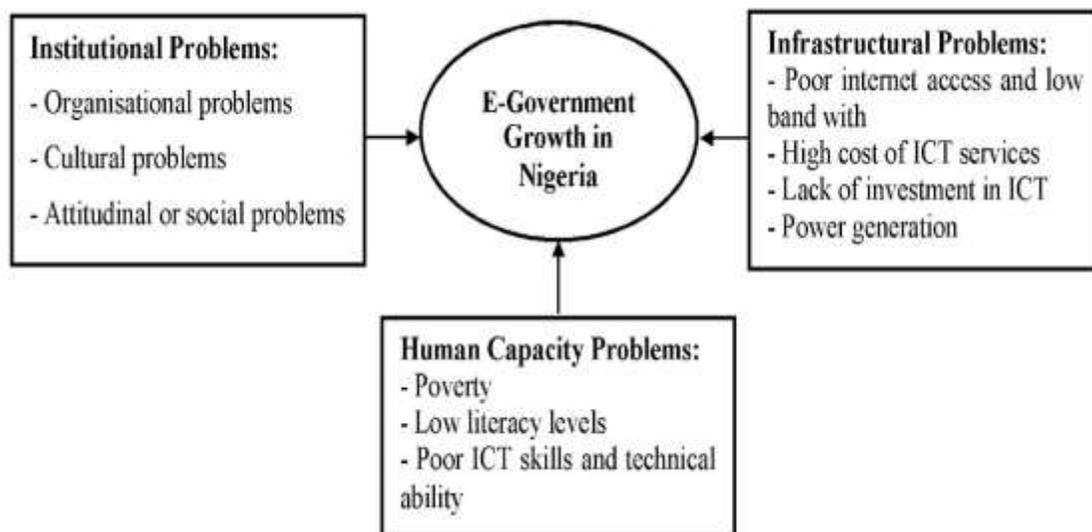


Figure 2.3: Problems Confronting e-Government Growth in Nigeria
 (Source: UNPAN Report, 2005 Ifinedo, 2005)

The UN E-Government Survey (2014) indicates that Nigeria performs low in a composite index which comprises online service, telecommunication connectivity and human capacity indices. Nigeria, likewise falls among the middle EGDI (0.25 - 0.50) countries with inadequate ICT infrastructure, human capacity and low adult literacy.

These challenges prevent Nigeria and other countries that fall within this group from making substantial advancements in the development of e-Government implementation (UN E-Government Survey, 2014). The progress of e-Government implementation in Nigeria is also challenged by insufficient funds and limited understanding and awareness of e-Government by citizens, businesses and government officials. Thus, e-Government is viewed as computerisation or creation of websites, which invariably influences decisions on essential matters such as regulatory policy and laws required in transforming e-Government development in Nigeria.

The researcher concurs with various studies in which challenges confronting the development of e-Government in Nigeria were highlighted. The challenges chiefly emphasised are inadequate infrastructure, human capital problems and institutional problems such as organisational, cultural and social problems (Ifinedo, 2005; Azeez et al., 2012; National ICT Policy, 2012; Ashaye & Irani, 2013).

So far, however, there has been little discussion about the need for an integrated e-Government framework that will ensure one-stop and citizen-centric online service delivery in Nigeria (Kaur, 2006). Hence, the lack of an integrated e-Government system for the efficient and timely delivery of building development permits by Housing and Urban Development Agencies (HUDAs) to the residents of Lagos State Nigeria, justified this study.

2.2.6 Comparative Assessment of e-Government by Regions

Figure 2.4 depicts the regional averages of e-Government development in all the five sections of the world. In the year 2014, Europe continued to top the rest of the world with an EGDI of 0.6936; followed by America with an EGDI of 0.5074, Asia was third with 0.5074,

Oceania fourth (0.4086) and lastly Africa with a 0.2661 EGDI (UN E-Government Survey, 2014).

In the face of substantial investments in finance and human resources with its related advancements, e-Government divides exist, just as digital divides continue to exist between and within regions and countries (UN E-Government Survey, 2016). The regional trends have remained the same over the past 15 years. However, there exist a huge gap between African countries with a low EGDI average of 0.2882, and European countries with an EGDI average of 0.7241. Oceania countries, with an average EGDI of 0.4154, are also below the global average of 0.4623. Asia and America are very close, with average EGDI values of 0.5132 and 0.5245 respectively (UN E-Government Survey, 2016).

World Average

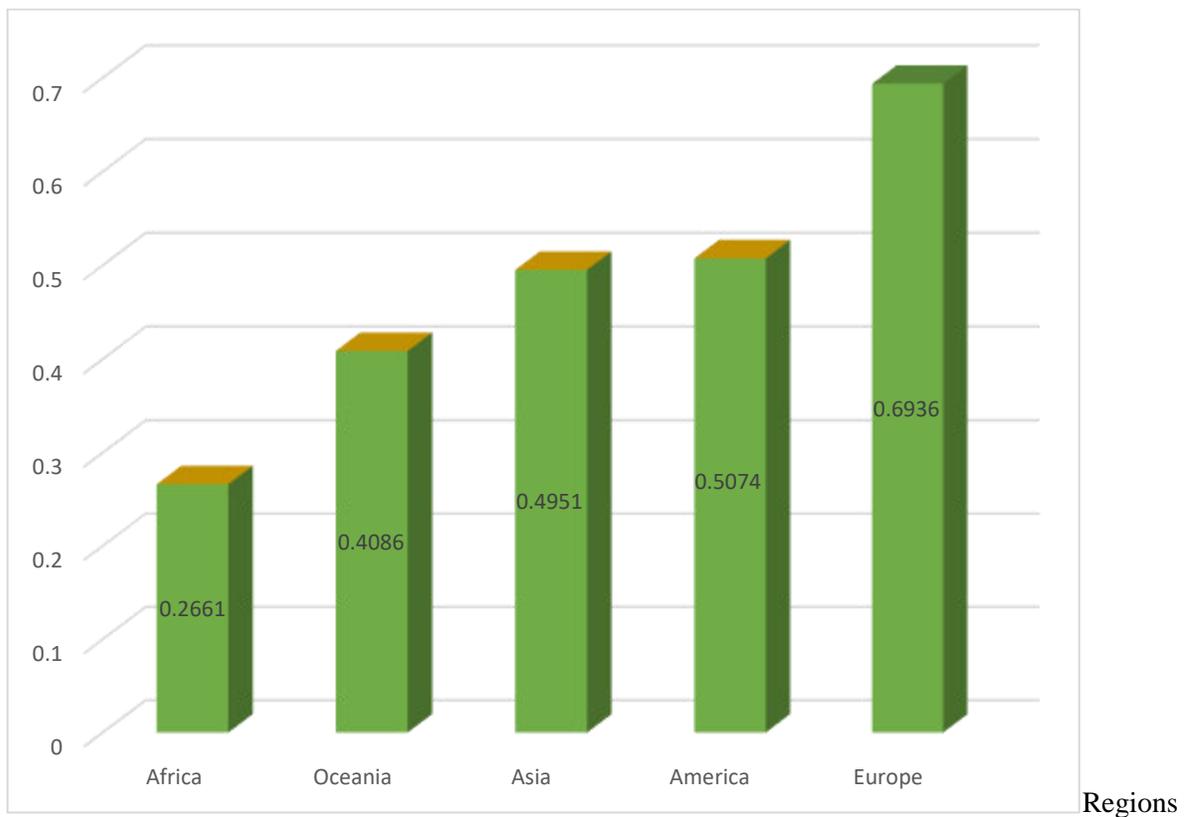


Figure 2.4: Regional Averages of Electronic Government Development (Source: UN E-Government Survey, 2014: p. 15)

In the African region where Nigeria is situated, e-Government implementation has been an unsuccessful exercise as a result of different threats or challenges which this study intends to address. Examining the earlier trends, Africa continues to lag behind the other continents. This is as a result of a lack of basic ICT infrastructure in Africa which causes problem for e-Government implementation. However, various countries within this region have launched e-Strategy plans to improve their e-Readiness. E-Readiness as defined by Bui, Sankaran and Sebastian (2003) as “the aptitude of an economy to use Information and Communication Technology (ICT) to migrate traditional business into the new economy”. The e-Readiness is measured by the following major factors: culture, ability and willingness to invest, digital infrastructure, industry competitiveness, knowledgeable citizens, macro economy and skilled workforce (Al-Shishi, 2006).

2.2.7 Trends of E-Government Growth in Some Selected African Countries

The African continent continues to experience a slow progress in e-Government development when comparing the United Nations E-Government Surveys of 2012 and 2014. In 2010, only three African countries Tunisia, Mauritius and Egypt were above the world average of 0.4406, while only two countries Mauritius and Seychelles were above the world average (0.4882) in 2012 (UN E-Government Survey, 2014). But in 2014, six African countries Tunisia, Mauritius, Egypt, Seychelles, Morocco and South Africa were above the world average of 0.4712 which implies a slow progress between 2010 and 2014 EGDI values.

Table 2.4 shows how the trend of e-Government development in Africa from 2010 to 2014 has remained at the middle of EGDI the (0.25 - 0.5) from the United Nations E-Government Surveys (2010, 2012 & 2014). Only five out of 54 countries in Africa can be classified as having a high EGDI (0.5 - 0.75).

In view of this trend, it becomes imperative for African policy makers to decide on regulatory policy and legislation that will incorporate technology in their developmental strategies and usher new ideas and techniques that will link up with their citizens. In agreement with the researcher’s opinion, Quinta and Sirajul (2013) perceive the need to have laws that will

strengthen the implementation and adoption of digital technology for e-Government to be successful.

Table 2.4: Trends of e-Government Growth in Some Selected African Countries

| S/N | Country | E-Development Index Value | | | World e-Government Development Ranking | | |
|------------------|--------------|---------------------------|--------|--------|--|------|------|
| | | 2014 | 2012 | 2010 | 2014 | 2012 | 2010 |
| 1 | Tunisia | 0.5390 | 0.4833 | 0.4826 | 75 | 103 | 66 |
| 2 | Mauritius | 0.5338 | 0.5066 | 0.4645 | 76 | 93 | 77 |
| 3 | Egypt | 0.5129 | 0.4297 | 0.4518 | 80 | 107 | 86 |
| 4 | Seychelles | 0.5113 | 0.5192 | 0.4179 | 81 | 84 | 104 |
| 5 | Morocco | 0.5060 | 0.4209 | 0.3287 | 82 | 120 | 126 |
| 6 | South Africa | 0.4869 | 0.4869 | 0.4306 | 93 | 101 | 97 |
| 7 | Botswana | 0.4198 | 0.4186 | 0.3637 | 112 | 121 | 121 |
| 8 | Namibia | 0.3880 | 0.3937 | 0.3512 | 117 | 123 | 125 |
| 9 | Kenya | 0.3805 | 0.4212 | 0.3338 | 119 | 119 | 124 |
| 10 | Nigeria | 0.2929 | 0.2676 | 0.2687 | 141 | 162 | 150 |
| Regional Average | | 0.2661 | 0.2780 | 0.3692 | | | |
| World Average | | 0.4712 | 0.4882 | 0.4406 | | | |

(Source: UN E-Government Surveys, 2010, 2012 & 2014)

2.2.8 The Evolution of E-Government

With the evolution of ICT, e-Government activities continue to grow and change (Serrano-Cinca et al., 2009; Chourabi & Mellouli, 2011). The transformation of e-Government is a continuous process, and its implementation is often conceptualised in phases (Almarabeh & AbuAli, 2010). There are various evolutions of e-Government models, and each model divides e-Government evolution into a number of stages with a particular name (Layne & Lee, 2001; Persson & Goldkuhl, 2005; Almarabeh & AbuAli, 2010; Chourabi & Mellouli, 2011). Basically, the models comprise four basic stages which are information, interaction, transaction and integration stage.

Figure 2.5 shows an e-Government evolution model consisting of four phases. Each of the four phases is considered via two dimensions of change, which are technological and organisational dimensions. Many of the writers grouped the phases of e-Government evolution into two main groups' namely minor and radical transformation (St-Amant, 2005;

Chourabi & Mellouli, 2011). The minor transformation is determined by continuously introducing technologies into government functionalities or processes; and has three evolutionary phases which are information, interaction and transaction phase (St. Amant, 2005; Chourabi & Mellouli, 2011).

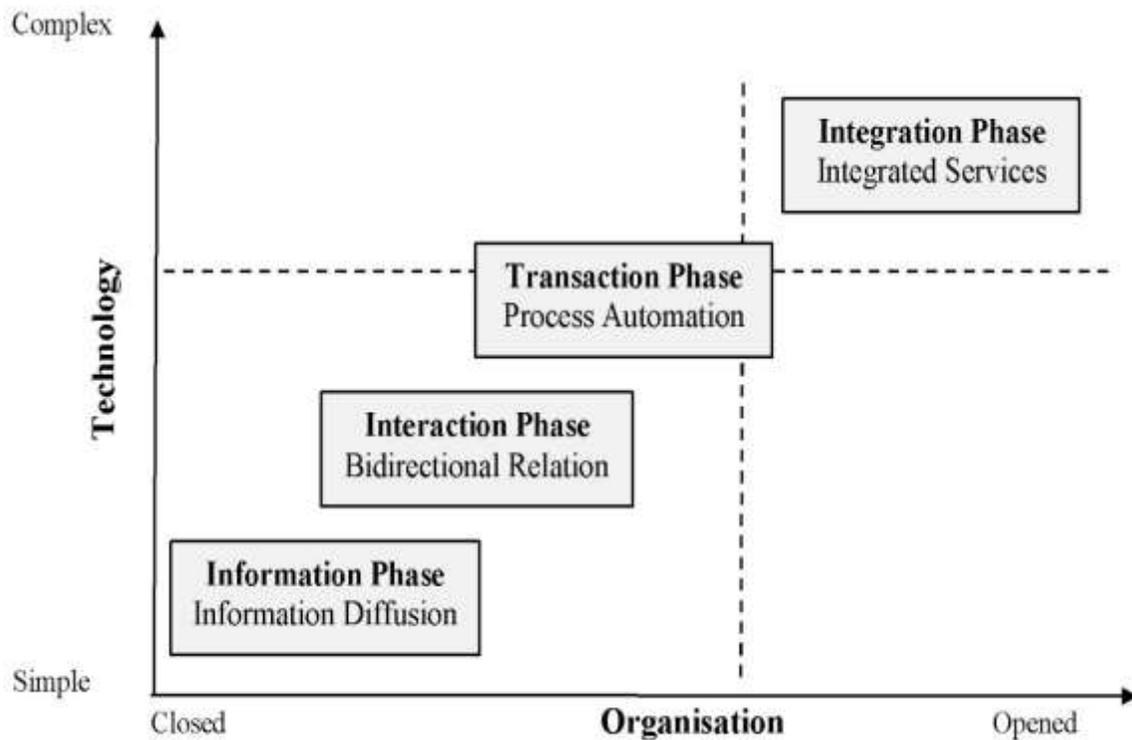


Figure 2.5: Evolutions of E-Government
(Source: Chourabi & Mellouli, 2011)

The information phase stands for a simple website that provides bundled information about the services provided by the agency (Persson & Goldkuhl, 2005). The interaction phase provides interactive information which includes the likelihood for a rudimentary interaction with the website. Similarly, the phase supports the establishment of bi-directional relationships with customers (citizens and businesses) (Moon, 2002; St-Amant, 2005; Chourabi & Mellouli, 2011). The bidirectional relationships are ensured through the implementation of online devices, for example, e-Forms, online forums, search engines and e-mail. The online mechanism invariably helps the citizens and businesses to search the

agency's database to order printed publications, subscribe to newsletters, order and download forms, and to arrange for online appointments with the agency (Persson & Goldkuhl, 2005; Chourabi & Mellouli, 2011).

The transaction phase is the stage where business processes are automated (Chourabi & Mellouli, 2011). At this stage customers can perform different types of online services with the government agencies. For example, customers can apply for scholarships, study grants, submit tax returns and pay for their tickets online (Chourabi, Bouslama & Mellouli, 2008); even though this phase of e-Government development often experience security issues such as authentication and confidentiality.

The radical transformation of e-Government according to Criado and Ramilo (2008) is measured by implementing an all-encompassing change of government functions and organisation. The radical transformation aims at developing an interactive government that centres on co-operation, sharing and reuse of e-Government, and only has a phase which is integration. Integration is the current phase of e-Government development and is most often implemented with a single portal thereby permitting customers to access government services via a single access point. Persson and Goldkuhl (2005) describe this phase as the actualisation of an integrated government that provides services irrespective of the organisational borders via a single access point, even though many agencies are involved.

In support of the current trend of e-Government development globally, this study aligns with the integration phase by proposing a framework that integrates the different agencies in the HUDA in Lagos State Nigeria for the customers or citizens to be able access their services via a single access point.

2.3 Concept of Integrated Electronic Government

The term integrated electronic government (e-Government) as described by ICT-Qatar (2009, p.1) is a “government operated Information and Communication Technology (ICT) project with the overall aim of integrating all the services provided by the various agencies of the government into a unified system”. Integrated e-Government is the current trend of innovation in electronic government development. Huang, Siau and Wei (2005) refer to integrated e-Government as the process of integrating various public services from the customers’ (business and citizen) perspective. Wimmer (2005) also describes an integrated electronic government as a single access point to information and services accessible by different public agencies.

Some of the benefits of implementing integrated e-Government are to eliminate fragmentations and isolations that characterises the public agencies. This has become a significant motivating factor in e-Government initiative globally, which is achieved by reducing the number of transactions citizens make with the public agencies.

Furthermore, according to ICT-Qatar (2009) the aim of integrated e-Government system are to increase availability, proficiency and viability of providing municipal services to its customers. The implementation of an integrated e-Government system will also help to increase governments’ productivity by rationalising the systems, innovative and optimal use of ICT. It will also help in the joint effort of the distinctive government organisations, enhance straightforwardness of government dealings and increase the inclusion of end-users in service provisions.

An integrated e-Government framework becomes important and urgently needed in the HUDA in Lagos State South-West Nigeria. This is because the agencies responsible for issuing building development permits to the citizens and businesses lacks customer-centred online service delivery which an integrated e-Government system will provide. The lack of an integrated system causes the customers to move from one office to another when seeking

building development permits in the HUDA. This often results in delayed responses from building permits agencies.

Applications of Integrated E-Government Systems

Some of the countries that have embraced integrated platform systems to achieve a single access point or one-stop web portal for their governments are:

- (i) New Zealand has launched the e-Government Interoperability Framework (e-GIF) that expedites business solutions among government agencies at a national level and across borders. (New Zealand State Services Commission, 2008).
- (ii) The Singaporean government has designed an integrated Government (iGov) with the aim of connecting citizens via 'infocomm' and delights in satisfying eight out of every ten users with quality government e-Services (Infocomm Development Authority [iDA], 2006).
- (iii) The United Kingdom government has launched e-Envoy for the purpose of making all government services accessible electronically and in a customer-focused manner, for the UK to be the world best e-Commerce environment, and for those who desire it to have access to the Internet (Office of the e-Envoy, 2004).
- (iv) The US government created FirstGov as a single portal that centralises the location and retrieval of government services and information among several public sectors and departments (Centre for Technology in Government [CTG], 2003).

2.4 Integrated E-Government Implementation Factors

The integrated e-Government implementation factors refer to enabling tools necessary for the development of a concrete and comprehensive platform required for a productive performance of an integrated framework in the HUDA, Lagos State Nigeria. The key factors also provide some directions and guidelines for the implementation process. These factors are technology, organisation and environmental aspects.

2.4.1 Technological Factors Influencing Integrated E-Government Implementation

Technological factors refer to the combination of techniques or technical related variables influencing the implementation of integrated e-Government. Scott (2007) and Baker (2011) describe the technological factor as the technology that is applicable and significant to the organisation, including those used currently by the organisation and those that are available in the market but not presently in use. The existing technology in the government agency provides a far-reaching boundary on the pace of technological change and scope that an agency can undertake (Collins et al., 1988; Baker, 2011).

Therefore, it can be concluded that the technological factor is the main source of power that enables the transformation process of electronic government implementation (Al-Solbi & Mayhew, 2005). It also demonstrates that ICT provides fresh opportunities for the government to be more open to their customers (e.g. businesses and citizens), and provide greater access to information generated by government agencies (Lambrinoudakis et al., 2003; Gupta, Dasgupta & Gupta, 2008).

A number of studies (for example, Srivastava & Teo, 2007, Durbhakula & Kim, 2011) have shown three related variables- Information and Communication Technology (ICT) infrastructure, technology innovation and technological readiness, – to be important aspects of e-Government initiatives.

ICT infrastructure according to Gregorio, Kassicieh and De Gouvea (2005) is technology that enables Internet related transactions. Based on this fact, e-Government depends on ICT since it provides the essential infrastructure required for the continuous communication of information between the government and its citizens. In addition, ICT influences the capacity of a nation's Internet access thereby enabling electronic websites' transactions (Gregorio et al., 2005; Durbhakula & Kim, 2011). Ndou (2004) states that poor ICT infrastructure such as lack of communication channels and reliable networks are some of the key impediments to e-Government development initiatives. In an earlier study, Lam (2005) highlights the lack

of shared and integrated architecture as well as the nonexistence of a data standard as significant challenges of e-Government development especially in developing nations.

Technological innovations denote a country's potential to improve efficiency. Different countries adopt diverse technological innovations in order to be viable in the world economy (Porter, 2005; Durbhakula & Kim, 2011). Technological readiness which is the third important aspect of e-Government implementation initiatives consist of technology infrastructure and IT human resources (Zhu, Kreamer & Dedrick, 2004). The term technology infrastructure refers to technology that facilitates Internet business transactions, while IT human resources refers to the IT professionals that possess the skills and knowledge to implement Internet related applications.

From the description of technological readiness, it is apparent that technological readiness is affected by both physical assets and human resources. The technology infrastructure is responsible for building a platform for e-Government implementation, while information technology human resources provide the knowledge for e-Government applications. Thus, nations with better technological readiness are better equipped to implement e-Government initiatives. Besides the earlier stated indicators, other technological factors that contribute to e-Government implementation are technological availability and its usage (Srivastava & Teo, 2006), ICT strategy, technical interoperability and layout design (Abdalla, 2012).

However, technological issues remain one of the most significant challenges thwarting e-Government in developing nations. The most important subjects established under technological factors by the researcher are: ICT infrastructure, technological innovations, technological readiness, IT human resource and ICT strategy, technical interoperability and layout design. These technological issues pose a huge challenge in the implementation of an integrated e-Government in Nigeria.

2.4.2 Organisational Factors Influencing Integrated e-Government Implementation

Organisational factor refers to the features and resources of an organisations in terms of its size, formalisation, centralisation, quality of human resources and managerial structure, as well as the quantity of slack resources available within the firm (Scott, 2007; Baker, 2011). Organisational factors are important and must be considered in the implementation of an integrated e-Government project as revealed by different academics. There are also diverse views by different scholars on the classification of organisational factor. According to Ashaye (2014), some researchers place much emphasis on the staff within the firm, while others view it from a wider perspective. In order to retain qualities, visions and the aims of the motivated stakeholders in any e-Government project, there is necessity for organisational skills and effective communication (Sharma & Gupta, 2003; Nkohkwo & Islam, 2013).

As a result of the preceding discussion, some key questions must be asked of the Nigerian government functionaries: Are they familiar with the prerequisites for implementing an integrated e-Government project? Are they honest with the implementation and management of the projects? Will the government functionaries not use ICT initiatives for their own personal interest? These questions are applicable to Sub-Saharan African (SSA) countries where government agencies and their officials may perhaps perceive integrated e-Government as a conceivable threat to their power and viability and as a result may be reluctant to promote the genuine objectives of integrated e-Government (Heeks, 2002; Nkohkwo & Islam, 2013), and this can thwart the effective accomplishment of integrated e-Government undertakings. Heeks (2002) maintains that e-Government implementation in Africa has suffered partial or total failure as a result of a human factor.

Furthermore, a lack of ICT training programmes for government officials has been identified as a salient organisational issue to the development of integrated e-Government services (Bigdeli & Cesare, 2011). Fatile (2012) further states that the lack of formal training with regard to the uses and applications of computers, and limited access to the Internet in the public agencies are organisational issues that hinder e-Government implementation. The imbalance in ICT knowledge, skills and experience between the ICT vendors and the

government agency clients gives vendors the opportunity to monitor and even influence unwisely the contents and directions for e-Government projects – a critical situation in Africa.

Cultural and attitudinal factors are other organisational aspects to be considered. ICT and other technological based initiatives flourish better in a cultural setting with a global mechanistic view, unlike Africa where a lack of formality succeeds (Ifinedo, 2005). The effect of traditional aspects on the implementation and adoption of ICT initiatives in developing nations has been a subject of discussion in Information Systems and Technology literature (Straub, Loch & Hill, 2001; Ifinedo, 2005). It has been shown, that attitude and cultural issues such as socio-cultural and attitudinal mannerisms are important in developing ICT based creativities; unethical mannerisms are rampant among government functionaries especially in Nigeria (Ifidon, 1996; Ifinedo, 2005).

Similarly, the propensity to indulge in careless or corrupt practices, establish difficult bureaucratic processes and over politicise decision-making for their personal interest are factors which have been identified as some of the challenges responsible for poor implementation of e-Government initiatives in the Sub-Saharan Africa region where Nigeria is a subset (Uwadia & Ifinedo, 2005; Ifinedo, 2005). Therefore, cultural standards and an array of personal behaviour influences the way in which technology is applied by the policy makers and citizens of a nation (West, 2004). Lam (2005), Li and Stevenson (2002) also emphasise that other forms of cultural issues such as absence of top management support, the slow-moving pace of reformation, lack of organisation readiness and resistance to change in the organisation will influence the implementation of integrated e-Government.

The Nigerian government may not have the resources to execute integrated electronic government services since most of the resources may have been redirected to sectors such as foreign loans services and poverty reduction (Ogwunike, 2002; Ifinedo, 2005). As a result of this lack of resources the economic condition is calamitous for the nation coupled with its escalating population as a result of its indebtedness and poverty level (World Bank Group,

2004; Ifinedo, 2005). Hence, the low education level and lack of qualified ICT experts in Nigeria (Oyebisi & Agboola, 2003; Ifinedo, 2005) will influence the implementation of e-Government in the country.

The researcher shares the same sentiment with the different scholars on the organisational factors negatively impacting e-Government implementation and classifies them into four major aspects namely human capacity, top management, organisational change and change management.

2.4.3 Environmental Factors Influencing Integrated e-Government implementation

Environmental factors can be referred to as the different sustainable situations in which organisations or government agencies conduct their services. The principal subject under environmental factor is uncertainty, and the way in which persistent changes can influence technological innovation, implementation and adoption processes, especially in developing nations (DePietro, Wiarda & Fleischer, 1990).

The accomplishment of e-Government implementation in developing nations is in agreement with Abdalla (2012). The author observes that it depends largely on the external environment which includes the following: economic conditions, cultural settings, political power and legal authority. Scott (2007) classifies environmental factors that impact the implementation of e-Government initiative as competitive pressure, customer readiness and regulatory environment. For integrated e-Government to be successful, Muhammed (2010) states that it is fundamental for the policy makers to set up an empowering situation for the local manufacturer and the coupling of ICT equipment.

Political will and leadership support are prevailing themes in an environmental context that are essential in supporting e-Government implementation innovations (Ebrahim & Irani 2005, Nkohkwo & Islam, 2013). Leadership is among the key driving forces for any new and ground-breaking idea or project (Ndou, 2004), this is because the process of implementing integrated e-Government is complex and requires huge scale changes (Bonham et al., 2001;

Burn & Robins, 2003; Nkohkwo & Islam, 2013). Schwester (2009) argues that lack of support, high level bureaucrats and politicians pose a great problem to e-Government implementation and sustainability, which invariably leads to poor e-Government platforms.

The lack of an ICT regulatory policy is another aspect of organisational issue that requires attention. Hence, there is a need for government to embark on an ICT regulatory framework. Nkohkwo and Islam (2013) maintain that for an e-Government initiative to do well, laws and regulatory policies guiding e-Government implementation must be put in place. In developed nations such as Australia, Canada, the United Kingdom and the United States of America, their governments have ICT regulatory policies which support e-Government implementation (Azeez et al., 2012), but the reverse is the case in Nigeria. There is no government ruling on ICT policies that will assist the country to develop its own ICT framework and essentially e-Government strategies. This was reinforced by Odat and Khazaaleh (2012) who opine that the main challenge confronting e-Government is the need to develop policy that will favour computerisation so as to overcome policy problems, even if it involves huge capital in purchasing the hardware and software.

Azeez et al. (2012), Nkohkwo and Islam (2013) identify funding and the high cost of purchasing ICT equipment for electronic government services, as environmental themes influencing integrated e-Government implementation. Ebrahim and Irani (2005) harangues that the core source of funding for a public agency comes from the federal government, which makes it difficult to control and at times this may come and go in phases. This makes it hard to plan a maintainable ICT enterprise, for example, integrated e-Government. In support of this, Schuppan (2009) opines that budgetary allocation has been mentioned as a foremost constraint affecting e-Government implementation in developing countries.

Socio-cultural and socio-economic are other aspects of environmental issues identified by different scholars such as West, 2004; Quina, 2008 and Hanson, 2009. Six out of the ten most corrupt nations across the globe, based on Hanson's (2009) finding are in Sub-Saharan Africa. In addition to the corruption, the level of poverty in this African region is a precarious

problem to technological development. Coupled with this poverty level is a negative development in per- capital income for the past twenty years (Quina, 2008). All these challenges together with the illiteracy level in the region constitute the environmental factors that pose a challenge to integrated e-Government implementation.

West (2004) concurs that the socio-cultural aspect is prominent in the development of ICT initiatives in developing nations. This is factual as cultural norms and individual behavioural pattern influence the way and manner in which technology is used. The most significant themes identified as environmental factors influencing the implementation of integrated e-Government, as revealed in the literature of Quina (2008), Hanson, (2009), Azeez et al. (2012), Nkohkwo and Islam (2013) can be summarised as political will and support, cultural and socio-cultural norms, economic and regulatory policy.

2.5 Integrated E-Government Implementation Perceptions

The perceptions of an integrated e-Government system implementation refer to the distinctive discernments as well as what the system offers to the stakeholders. The perceptions can be classified as perceived benefits, perceived barriers and perceived risks.

2.5.1 Perceived Benefits Influencing Integrated E-Government Implementation

Perceived benefits are the established advantages or near future gains derived from an implemented and operating integrated e-Government system as observed by either the customers or public agencies. Electronic government enables the complementary application of information technology in government agencies which comprises of both strategic and operational uses (Anderson, 2006). Anderson (2006) further states that the pursuit to actualise e-Government is propelled by the strategic objectives to increase efficiency, effectiveness and quality of information, enhanced interaction mechanism and improved governance tools.

Like many ICT initiatives, one of the expected benefits that is often debated is the reduction of errors which leads to improved efficiency and computerising, a standard validation to

enhance consistency of outcomes (Beynon-Davies, 2005; Ma, Chung & Thorson, 2005). Ndou, (2004) summarises the benefits in implementing integrated e-Government systems as: the reduction in cost and gain in efficiency; delivery of quality services to customers; accountability, anticorruption and transparency; increase in government capacity and creation of networks and community.

Ashaye (2014) asserts that governments apply Information and Communication Technology to uphold a cost effective and more efficient government which expedites more appropriate public services. Besides, e-Government is beneficial in increasing transparency, reducing corruption, cost reduction, increasing revenue and creates convenience. Bhatnagar (2004) opines that e-Government innovation like integrated e-Government enhances information sharing, delivers services to both internal and external customers, and changes the government mode of operations. Al-Khoury and Bal (2007) uphold that the accomplishment of integrated e-Government will cut down government expenditure on communication among government organisations, by integrating different government ministries, department and agencies via a single web portal.

Kunstelj and Vintar (2009) classify the benefits of integrated e-Government implementation as financial and social benefits, organisational, technical and political benefits. Having reviewed various e-Government initiative benefits as hypothesised in different literature, the researcher characterises the apparent integrated e-Government benefits as follows: internal, external, operational, organisational and technical benefits as shown in figure 2.6.

(i) Internal Benefits

Internal benefits are the drivers of integrated e-Government which is key to the government agencies. Basu (2004) substantiates his idea of e-Government by stating that the purpose of e-Government is to bolster government's exertion towards proficient administration and enhanced straightforwardness, for a well-managed country's economic and social resources for development. Integrated e-Government also creates a partnership opportunity between

the business and government, which result in promotion of government in a business relationship (Al-Shafi, 2009).

In the context of internal benefits, many researchers assert that if integrated e-Government is successfully implemented, it will encourage transparency and increase productivity of the public agencies. Moreover, it will improve efficiency and the quality of information and services, alleviate layers and simplify complexity of organisational processes, create more organised and proficient workflow for business operations/ improve the management of internal data and support decision-making processes (Beynon-Davies, 2005; Ebrahim, 2005; Ma et al., 2005; Al-Shafi, 2009; Ashaye, 2014).

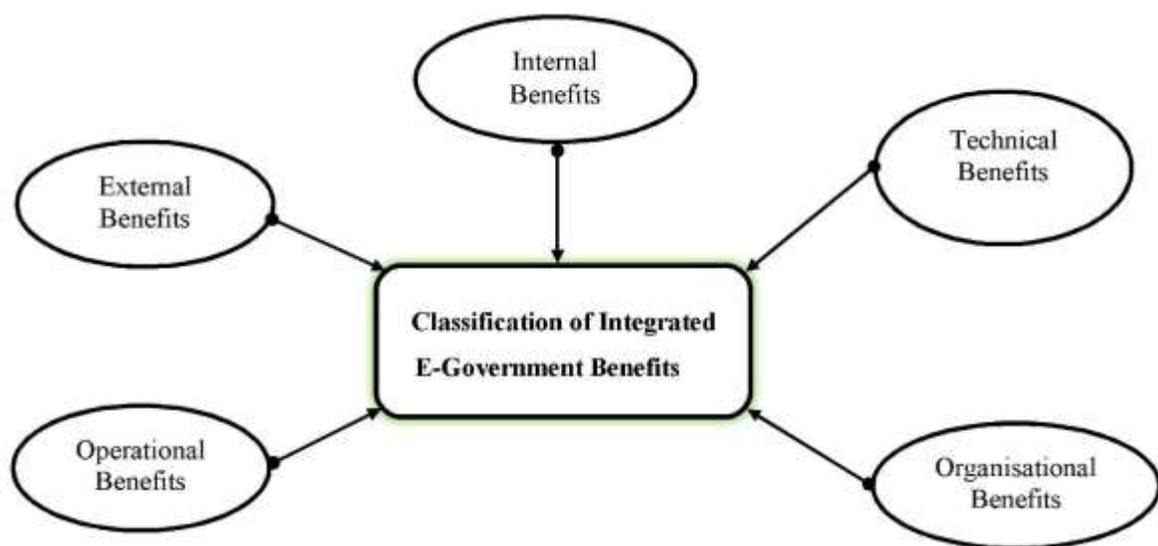


Figure 2.6: Classification of Integrated E-Government Benefits

(ii) External Benefits

According to Navarra and Cornford (2005), besides the internal transformation of the public agency, the implementation of integrated e-Government also has the potential of improving external relationships, such as with other agencies of the government, by the formation of another virtual government and client focused interface. Other external benefits of integrated e-Government identified by researchers include integrated planning and enhanced reputation,

transparency, increased participation and improved quality of life, computerisation of business procurement systems, and increased partnership and cooperation with the community and private agencies (Ebrahim, 2005; Kunstelj & Vintar, 2009; Ashaye, 2014). From the review of the literature (Navarra & Cornford, 2005; Ebrahim, 2005; Kunstelj & Vintar, 2009; Ashaye, 2014), the external benefits of integrated e-Government can be classified as the arrangement of an integrated e-Government portal for allowing customers to complete their transactions via a single access point. It also attracts more business projects as well as foreign direct investments, quick response and processing of customers' needs and expectations, improved customer satisfaction, improved credibility, enhanced controllability, integrated planning and improved reputation (Ebrahim, 2005; Ma et al., 2005; Al-Shafi, 2009; Kunstelj & Vintar, 2009).

(iii) Organisational Benefits

According to various literature (for example Almarabeh & Abuali, 2010; Ashaye, 2014), integrated e-Government implementation encourages organisational change with innovations and creativity, and in aspects of labour law and workforce systems. It also possesses the ability to reduce the personnel assigned to an administrative department to enhance precision of orders.

Another organisational benefit is provision of a sure medium to improve government transparency, accountability and citizen empowerment. It also creates opportunities for the citizens to be involved in decision-making by allowing them to send in their thoughts or recommendations online, and fashions a partnership between government and its customers, that is citizens and businesses (Ndou, 2004; Al-shafi, 2009; Ashaye 2014).

(iv) Operational Benefits

The functional benefit derived from newly implemented technology does not come from the accomplishment of the initiative, but rather from government embarking on its day-to-day operational activities in an enhanced and economical manner (Edmiston, 2003; Al-Shafi, 2009). Ndou (2004) concurs that computerised online public services will significantly

reduce the cost of processing government services in comparison with the manual processing method. Some researchers are of the opinion that the implementation of e-Government innovation reduces mistakes and provide a better result by concentrating on standardized tasks (Carter & Belanger, 2005; Al-Shafi, 2009).

Other operational benefits as emphasised by research scholars are reduction in the cost of transacting and delivering services provided to the customers (businesses and citizens), decrease in time spent on delivering government services, and enhanced transparency and accountability of government operations. Furthermore, government officials may be motivated by eliminating repetitive jobs and developing new skills. Other operational benefits include better understanding of government policies, rules and procedures by making government information available and accessible to its customers.

Further benefits of integrated e-Government systems are improved efficiency and effectiveness by reducing cost and simplifying processes. It also offers better quality of service by removing unwanted processes and less routine tasks as a result of reduced administrative processes at the front office and the computerisation of numerous back office activities (Beynon-Davies, 2005; Ebrahim, 2005; Kunstelj & Vinta, 2005; Ashaye, 2014).

(v) Technical Benefits

The technical benefits influencing the implementation of integrated e-Government development are enormous. Some of these benefits include the promotion of standards, fast processing and storage of data, reduction in collection and duplication of data, expansion of new service delivery channels, reduction in data redundancy, upgrading of applications and infrastructure, opportunities to avoid the issue of the digital divide, and the encouragement of stakeholders involvement in government operations thereby modifying public agencies' mode of operations (Kaliontzoglou, Sklavos, Karantjias & Polemi, 2005; Ashaye, 2014).

Other technical benefits that are identified in studies are: enhanced connections within and among government agencies; improved government ICT infrastructure, access to information

and services anywhere and anytime, improved information authorization and security due to centralisation, storage of backup copies in different locations, increased accuracy, consistency and reliability of data sharing, and the provision of portable systems and applications to encourage one-stop government (Hamed et al, 2008; Kunstelj & Vinta, 2009; Martin & Reddington, 2009).

2.5.2 Perceived Barriers Affecting the Implementation of Integrated E-Government

The barriers affecting the implementation of integrated e-Government can be described as the real or perceived features from different contexts militating against developing an integrated e-Government system. It is either because they hinder demand or supply by acting as an obstacle or blockades to customers and public agencies in providing e-Government services via a single access point. Enyon and Dutton (2007) this uphold by describing barriers to signify factors that impedes or causes a disincentive for governments to come up with new initiatives or to improve on exiting e-Government applications.

Basically, lots of e-Government creativities are in their earliest period of operation and as a result different challenges and barriers are beginning to manifest in the public agencies. These avert the actualisation of the perceived advantages and hinder the successful implementation of the initiative. (Hu, Pan, Lu & Wang, 2009). In a study conducted by Oxford Internet Institute (2007) on the barriers affecting e-Government implementation in Europe it was submitted that technical, legal, institutional or social barriers hinders e-Government progress. These barriers were further simplified as leadership failure, lack of trust, poor construction and technical design, organisational flexibility, digital divides and financial inhibitors.

Abdalla (2012) articulates that the process of implementing integrated electronic government is a cumbersome task and the obstacles being confronted vary from, engineering processes, creating awareness, ICT infrastructure and online service delivery, to human capacity development. Stoltzfus (2005) substantiates this by stating that e-Government implementation is a costly exercise consisting of multiple requirements ranging from a stable

political system, stable technical infrastructures and legal framework to highly skilled people. While Bigdeli and Cesare (2011), Hassan, Shehab and Peppard (2010) identify various elements that hinder or negatively affect the development of integrated e-Government projects and group them under six main categories namely: political barriers, administrative barriers, resistance barriers, technological barriers, cultural, strategy and legislative barriers.

Kunstelj and Vintar (2009), Ebrahim and Irani (2005) in their studies further characterised the challenges affecting integrated e-Government implementation as financial, social or users, IT infrastructure and skills, security and privacy, technical, organisational, political and legal barriers. This view is supported by Ashaye (2014) and Omari (2013) who maintain that the different barriers to integrated e-Government implementation are experienced as a result of staff skills including ICT infrastructure, policy issues, change management, security, partnership and collaboration.

Other barriers confronting the accomplishment of integrated e-Government within the ambit of developing nations are recapitulated as: leadership failures, inadequate resources and funding, socio-economic constraints and cultural barriers, lack of acceptance and buy-in by the citizens as well as the government officials due to limited awareness of the initiative, and technical know-how (Ashaye & Irani, 2013).

Having reviewed many of the barriers affecting the implementation of integrated e-Government as posited in different normative published materials, the researcher identifies the apparent integrated e-Government barriers and attempts to categorise them into seven major groups. These are political barriers, financial barriers, technological barriers, organisational barriers, cultural barriers, and security and privacy barriers.

From the reviewed literature, the various perceived barriers confronting e-Government implementation in developing nations, in which Nigeria is a subset, can be linked with the socio-economic and political situation of the region. The countries in this region are often characterised by a poor economy, and environmental, social and economic crises. For clarity,

the researcher classifies the barriers affecting integrated e-Government into seven major categories namely: political, financial, technological, organisational, policy and legislation, security and privacy, and cultural barriers as shown in figure 2.6 and are discussed afterwards.

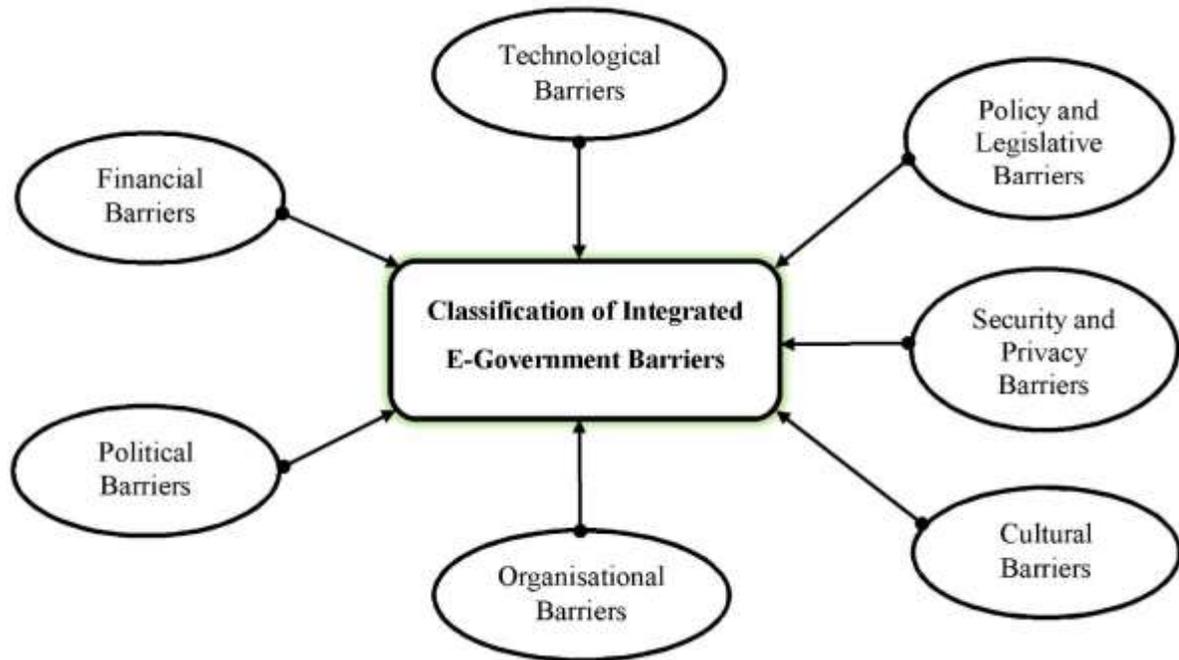


Figure 2.7: Classification of Integrated E-Government Barriers

(i) Political Barriers

In order to accomplish transformation in any e-Government initiative, administrators and political office holders are required, at various levels of government, to understand the purposes of policy and technology, and those that motivate the reform. For e-Government initiatives to succeed it requires strong political will and leadership, which ensures long term allegiance of great IT skill or knowledge, resources and collaboration of different cliques. The political leaders also help to unite the various aspects that drive government initiatives over all the stages of development.

Kunstelj and Vintar (2009), and Quadri (2012) identify and classify political barriers as a lack of leadership support and political will, lack of objectives and visions, inadequate policy,

over-ambitious landmarks and interest on short term returns. Schwester (2009) opines that high-level bureaucrats and the need for support from political office holders are barriers to e-Government implementations. Due to the lukewarm support from political office holders the implementation of e-Government projects frequently wind up in “stop and go” development and unsustainability. It is apparent that to achieve an integrated e-Government framework, there is need for our political leaders to be visionary and support this laudable initiative. Since the involvement of top management leadership is a keystone in an ICT implementation strategy coupled with the determination of political leaders, and responsive management to support the integrated e-Government implementation processes.

(ii) Financial Barriers

Financial issues are important to the implementation of any e-Government initiative such as the integrated e-Government under study. According to Ashaye (2014), inadequate financial resources delay project completion and increase the initial cost. Ebrahim and Irani (2005) affirm that the key financial resources for public agency organisation comes from the federal government which is often difficult to regulate and occasionally ‘comes and goes’. This makes it difficult to plan a workable ICT initiative like integrated e-Government (Ebrahim & Irani, 2005). For integrated e-Government to thrive there is a need to put in place human capital and financial investment.

Fatile (2012) maintains that severe funding and budgetary defects add to the problems of infrastructure and integrated e-Government tools within government agencies. Azeez et al. (2012) substantiates that financial investment is a great threat for implementing e-Government in Nigeria as government earmarks paltry budgetary resources to develop the initiative. This invariably limits the scope of government obligation in implementing full scale integrated e-Government. Kunstelj and Vintar (2009), and Nkwe (2012) classify financial barriers affecting the implementation of e-Government projects as the lack of financial resources and public-private-partnership.

Other financial barriers identified by some authors such as Nkohkwo and Islam (2013) and Ashaye (2014) include the high cost of internet access, network economy, e-Business and e-Commerce, the exorbitant cost of ICT consultancies and professional services, and insufficient financial resources in public agency organisations. Additional financial barriers further recognised by the authors are market forces in relation to demand and supply, high cost of installing, operating and maintaining IT frameworks, and the cost of systems development, training and retraining.

In support of the arguments put forward by the different academics, the United Nations Development Programme [UNDP] Report (2006) emphasises that for a meaningful e-Government implementation process, there is a need for adequate resources which would be used to develop and manage the system, build up technical infrastructure and to initiate and coordinate e-Government processes. Consequently, the review of literature reveals that financial barriers which can be classified as low budgetary allocation of resources, high cost of Internet, ICT professionals and consultancies services, installations and maintenance negatively affect the implementation of e-Government innovation in public agency organisations.

(iii) Technological Barriers

Technological barriers affecting the implementation of e-Government enterprises according to Ashaye (2014) can be chronicled to issues like variance in technology as a result of time, and failure or lack of dependable networks and communications. Others are tele-density, deficient communication architecture policies and resource standards, good websites, access to IT facilities and integrated systems. Ebrahim and Irani (2005) opine that the application of ICT initiatives like integrated e-Government need a compatible integrated Information Systems (IS) and ICT infrastructure as well as advanced technologies to safeguard integrity and security.

However, technology on its own cannot assure the success of e-Government implementation. In any case, it is vital to realise that for any e-Government activity to be accomplished it must

have adequate infrastructure, ample resources, capable ICT staff, effective ICT support and training, and management support. Similarly, a number of scholars and practitioners of ICT development have recognised that the implementation and adoption of e-Government will probably have an undesirable impact as a result of social infrastructure and the existing poor state such as road networks and power supply in a nation like Nigeria (Dode, 2007). Azeez et al. (2012) supports the fact that steady power supply has been acknowledged as a prerequisite for implementing e-Government projects in Nigeria and some of the ICT installations have failed as a result of electricity distribution surges.

Other technological barriers affecting the implementation of integrated e-Government as recognised by various scholars in their research in developing countries include interoperability, lack of common standards for data sharing, access to infrastructure, weak IT infrastructure and service fragmentation. Additional barriers are reliability on foreign technical know-how, lack of Internet connection and reliable servers to build a strong foundation, lack of collaboration among governmental agencies, Non-Governmental Agencies (NGO) and private agency organisations (Kunstelj & Vintar, 2009; Fatile, 2012; Nkwe, 2012; Ashaye & Irani, 2013).

(iv) Organisational Barriers

These barriers relate to any number of factors ranging from individual and group attitudes to physical items. They may not necessarily have to be major items but can be as simple as employee absence and as important as appropriation of an organisation by a foreign government (Ellis, 2015). The term organisation barrier can also be related to structural matters such as disintegrations, poor relationship among the departmental agency, and non-recognition of the perceived benefits of the new creativities by the senior administration (Ebrahim & Irani, 2005).

Azeez et al. (2012) identifies attitude as an aspect of organisational barrier affecting the implementation of e-Government. Therefore, some of the ministries and agencies in Nigeria took the decision of not implementing e-Government. The decision is as a result of improper

orientation and earlier identified challenges on the benefits of e-Government to their ministries. Some authors affirm that to increase the potential advantages obtainable through integrated e-Government system, individual attitudes, organisational principles and management strategy in the government public organisations should be realigned (Ebrahim & Irani, 2005).

Additional organisational barriers established by various authors are stated as follows: leadership failure, lack of top management support and poor coordination, deficient implementation guidelines, lack of experience, Human Resources Management (HRM) matters like recruitment of ICT experts, resistance to change, human capital development, organisational motivation and lifelong learning. Others include private-public sector partnership, ability and commitment, varying organisational cultures, political and cultural changes, integrated e-Government vision, transparency and citizens' inclusion, evaluation framework and power loss due to centralisation (Enyon & Dutton, 2007; Hu et al., 2009; Kunsteji & Vintar, 2009; Ashaye, 2014).

(v) Cultural Barriers

These barriers are associated with social aspects. In a recent study, Omari (2013) submits that e-Government should consider and respect cultural differences in the society. A number of studies (for example, Azeez et al., 2012; Quadri, 2012; Omari, 2013) found that issues relating to cultural barriers are inactive citizens' participation, the digital divide, multilingual or multicultural issues, e-Literacy, opposition by union interests or professionals; poor maintenance culture and resistance to change by the citizens.

(vi) Security and Privacy

These barriers which deal with the safety and confidentiality of citizens information have been identified by various scholars as another serious technical barriers affecting trust in the technology, and are well acknowledged issues in the implementation of e-Government globally (Layton, 2007; Ashaye, 2014). Ebrahim and Irani (2005) argue that privacy and

security are not only important to ensure the provision of government public services, but to also build trust and assurance of citizens in online transactions and services.

Ashaye (2014) emphasises the importance of protecting personal data so that it is not used for general purposes which may lead to distrust in government thereby weakening confidence in e-Government. However, the weakness in Information Systems security in the public agency organisations has been criticised by some researchers. As a result, e-Government will only succeed when all stakeholders including the citizen's private businesses and government agencies become satisfied with the use of electronic government, to carry out sensitive and private transactions (Ebrahim & Irani, 2005).

(vii) Policy and Legislative Barriers

These barriers affect integrated e-Government implementation which relates to the availability of suitable laws and regulations that enable or accelerate the distribution of electronic devices. It also controls the relationship among various e-Government sectors (Quadri, 2012; Omari; 2013). However, the applications of ICT in government or better still e-Government may encounter policy or legal barriers. Therefore, law-making bodies must guarantee that laws are redesigned to be appropriate for electronic transactions and documents, while the policy makers who implement the e-Government initiative must reflect on the impact of public policy and laws.

In a case study conducted by Azeez et al. (2012) on a Federal Civil Service Ministry in Nigeria, the researchers identify among other barriers, the non-existence of government ICT regulatory strategy and affirm that the necessity for government to embark on regulatory framework is indeed important. Other issues connected with policy and legislative barriers are the lack of suitable policy and legal framework guiding e-Documents and e-Transactions, old regulatory rules, overlapping and conflicting authorities, and archaic laws (Kunstelj & Vintar, 2009; Quadri, 2012).

Consequently, policy makers should consider the impact of laws and public policy; otherwise any e-Government project will encounter problems. Ndou (2004) states that rules and policies are essential, so there is a need for a range of new rules, policies, laws and legislations which will address electronic activities such as freedom of information, computer crime, property rights and copyright issues along with other pertinent issues, because these laws are still missing in most developing countries.

2.5.3 Perceived Risks Threatening the Implementation of Integrated E-Government

Perceived risks are the threats that are likely to emanate after the implementation of an integrated e-Government system. A good number of researchers have demonstrated that regardless of the enormous benefits that can be obtained via an integrated and knowledge sharing system, perceived risks have been observed to be significant elements threatening the implementation of integrated e-Government services (Whitmore & Choi; 2010; Ashaye, 2014).

The review of various literature unveils that as an after-effect of the abnormal state of debasement among groups in public organisations especially in the underdeveloped countries, the administrative authorities who are the implementers are potentially going to upset and oppose integrated e-Government usage. This is because they believe the newly developed system will reduce or stop their illegitimate and bureaucratic processes. The risks emanating from integrated e-Government implementation according to the researcher can be classified under the following headings: financial risks, technological risks, organisational risks, security and privacy risks, and process risks as shown in figure 2.8, and are discussed accordingly.

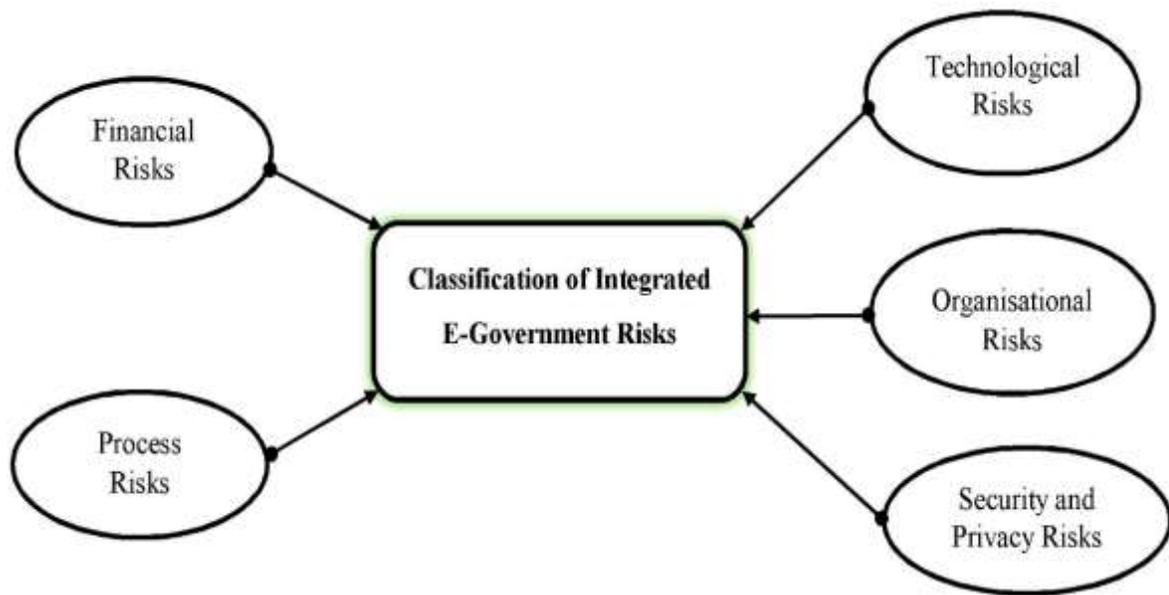


Figure 2.8: Classification of Integrated e-Government Implementation Risks

(i) Financial Risks

According to Fatile (2012) monetary resources and funding are indispensable in the successful implementation of integrated e-Government services. Financial risks on the other hand boil down to the consideration of the lack or limitation of funds most especially during the process of implementation, and that if this risk is not properly managed it can result in delay or total abandonment of the project (Ashaye, 2014). Another perceived risk is financial sustainability, which is the capability to maintain an integrated e-Government project after implementation. But one of the major problems confronting developing countries especially Nigeria is a poor maintenance culture (Liu & Zhou, 2010; Abdalla & Fan, 2012). However, the researcher is of the belief that if the system is well maintained and managed, it will serve for a longer period of time.

(ii) Technological Risks

One of the commonest types of technological risks in implementing integrated e-Government is the fear that the new the technology will fail to deliver the anticipated benefits and functions. Ashaye (2014) identifies reliance on the foreign technical expertise as a

technological risk since this is required for the system to be fully operational. Other technological risks envisioned include service disintegration, accessibility to information by other related agencies and dependence on foreign ICT equipment and technical partners (Matavire et al., 2010; Abdalla & Fan, 2012; Ashaye, 2014).

Nonetheless, the researcher is of the opinion that the lack of ICT infrastructure and skills in most of the developing nations would mean that the international vendors would have the final say in the design of an integrated e-Government system. This consequently makes it difficult for the country to develop its own capacity which might invariably threaten the operation of the integrated e-Government system.

(iii) Organisational Risks

Review of literature indicates that organisational risks of integrated e-Government implementation involve unlawful use and misinterpretation of the service offered by integrated e-Government, an increase in unemployment and reduction in manpower, leadership failure and a rise in criticism by customers and other agencies (Ghapanchi & Albadvi, 2008; Ashaye, 2014).

(iv) Security and Privacy

Privacy as defined by Whitman and Mattord (2012) is “a state of being free from unsanctioned intrusion” (p. 91). Privacy is to a greater extent a social concern, while security is more to do with technical issues (Choudrie, Umeoji & Forson, 2010). The three core levels of security that are widely used standards for evaluating information systems’ security according to Olumoye (2011) are confidentiality, integrity and availability. Therefore, the public agencies need to deliver e-Government services in accordance with the recognised levels for different clients paying little respect to their computer literacy.

In agreement with some of the scholars, lack of security can result in different types of cyber-crime such as hacking, cracking, identity theft, data diddling, denial of services (DoS)

attacks, eavesdropping, social engineering, threats from logic bombs, trojans, worms and other forms of viruses (Nijaz & Moon, 2009; Olumoye, 2011; Hector, 2012).

(v) Process Risks

Process risk has been identified as an aspect of perceived risk that can harmfully impact on integrated e-Government system in terms of operation and implementation. Some scholars (e.g. Bhatnagar, 2004 and Ashaye, 2014) argue that if the process is not well implemented and managed, it may lead to poor quality of service which may result in service delays or loss of full control of information.

2.6 Integrated e-Government Stakeholders' Influence on Implementation Process

The integrated e-Government stakeholders refer to group of people or organisation that are enthusiastically involved or interested in a project, or whose work or life will be influenced by the project in one way or the other. Chourabi and Mellouli (2011) describe stakeholders as the primary people who are affected by any organisational and technological changes. It was further stated that there are two categories of stakeholders, those who are internal to the government (e.g. government agencies and employees) and those external to the government (businesses and citizens).

Evaristo and Kim (2005) opine that the different stakeholders for various e-Government initiatives can be classified into government agencies, private sectors and the public. Hamed (2009) also noted in the three-quarters moon model proposed for the economic development of Libya that the main actors (stakeholders) in the development of e-Commerce for the Libyan economy can be classified as, the government, technologically developed nations, private companies and e-Commerce users.

Hamed (2009) further states that the government (first actor) should collaborate with the technologically developed nations (second actor) on the kind of technology and training to provide to the government employees. This reduces the main stakeholders into three which

are the government, private sector (companies) and the customers (public). This study uses the three-quarter moon model proposed by Hamed (2009) to complement the proposed integrated e-Government framework.

The three-quarter model helps to identify the main stakeholders in the implementation process. It also makes the classification of the stakeholders in the e-Government initiative clear and simple to understand. Hence, this study classifies the various stakeholders involved in the implementation of an integrated e-Government process in the Lagos State HUDA into: (i) government, (ii) private sector (companies) and (iii) customers (public).

2.6.1 First Stakeholder: Government

Government and its agencies at various levels consist of the Ministries, Departments and Agencies (MDA). Some of these government agencies according to Evaristo and Kim (2005) are self-contained while others may benefit from other agencies by exchanging information at the same or different levels. Layne and Lee (2001) remarked that the challenges of e-Government implementation have not been the same at each stage of the project. In order to accomplish every governmental goal, all the internal stakeholders (that is government and its employees) that are responsible for making the integrated e-Government project achievable must co-operate and work closely together (Rowley, 2011).

Government should also be aware of its own critical roles which are to acquire a clear vision, to fund, support, manage and guide the integrated e-Government project at all levels of the implementation (Al-Rashidi, 2012). The Department of Information Systems and Technology or the inter-organisational technical staff whose duties are to design and implement the integrated e-Government system should also assist other departments in re-engineering their business processes (Chen, 2010; Jain & Kesar, 2011). The stakeholders who are the government and its employees (implementers) should realise that the accomplishment of integrated e-Government implementation hinges on their expertise throughout the three development processes which are the pre-implementation, implementation and post-implementation phases (Sharifi & Manian, 2010).

To reduce the impact of the external resistance from the businesses and citizens, government should play an active role in educating the external stakeholders about the benefits and the added value in the integrated e-Government project (Signore et al., 2005; Chourabi & Mellouli, 2011). The researcher believes that it will be essential to clearly define the roles and responsibilities for all the government stakeholders (staff and organisation) participating in the development process across the agencies to avoid confusion.

2.6.2 Second Stakeholder: Private Sector (Companies)

There are various types of private sectors or companies that interact with the government (Evaristo & Kim, 2005). They can either act as providers if they want to provide services to the government or as customers if they want to access government services such as the e-Procurement portal of the government, or at times act as both. But, the role of the private organisation is to apply government strategies and manage transformations taking place in the newly implemented integrated e-Government environment (Obeidat & Abu-Shanab, 2010; Rose & Grant, 2010).

Other activities of the private sectors identified by Hamed (2009) that will influence the implementation of integrated e-Government at various phases include the following:

- (i) Reduction in cost of buying software and hardware
- (ii) Automation of payment system to reduce corruption
- (iii) Securing online transactions
- (iv) Regular updating of the system.

2.6.3 Third Stakeholder: Customers (Public)

Customers or the public, such as businesses and citizens constitute the ultimate end-users of services and goods provided by an integrated e-Government system. Other stakeholders such as government agencies and private organisations contribute to an integrated e-Government implementation plan so as to develop and enhance the quality of services offered to the public (Evaristo & Kim, 2005).

Every day the citizens' needs information that will help them to function well within the society. Some of this information may come as an outcome of collaborations with other colleagues, some from the news media, while others may be from services offered by the various arms of the government. For instance, the Korean centralised e-Government portal provides over 4000 services such as accessing government records, payment for vehicle registration, payment of taxes, application for government issued documents, filing of citizens' suggestions or complaints, applications for tracing and social security (Evaristo & Kim, 2005). Another role of the public as observed by the researcher is that the public will be able to judge the quality of the service as well as the satisfaction derived in interacting or using these integrated online services.

2.7 Integrated E-Government Implementation Process

The Integrated e-Government implementation process is an enormous information systems project to be developed by the government, and it provides different online services to customers like the businesses, citizens, employees and other users or government itself. As a matter of fact, an e-Government initiative such as an integrated e-Government system requires huge capital and a long time to advance to the stage where it can be used by the government to provide all kinds of services online (Badri & Alshare, 2008; Valdés, Solar, Astudillo, Iribarren, Concha & Visconti, 2011).

Information Systems and Technology (IS & T) projects such as integrated e-Government are growing astronomically and are usually implemented in phases which requires a good knowledge of project management to avoid failure (Pyster & Thayer, 2005; Garg, Goyal & Lather, 2010). Although there is no standard methodology for developing Information Systems' projects, various research scholars have demonstrated that there are different perspectives to the process of implementing e-Government projects. These are discussed in the subsection that follows.

2.7.1 Types of E-Government Development Processes

A number of e-Government development processes are used in projects; the three phase e-Government development process (Al-Rashidi, 2012); the four phase e-Government development process (Enyon & Dutton, 2010); the five phase e-Government development lifecycle (Heeks, 2006), and the systems development process using the Spiral model.

2.7.1.1 Three Phases E-Government Development Process

The three-phase e-Government development process was theorised by Al-Rashidi (2012). The process is made up of three phases through which an e-Government initiative can be implemented. The three phases are the pre-implementation (design) phase, implementation (development) phase and post-implementation (deployment) phase. Al-Rashidi (2012) states that these stages are important because they allow e-Government implementers to determine the major stakeholders and their activities in the implementation process. With the application of this process, Al-Rashidi (2012) was able to identify the roles and activities of the internal stakeholders as well as the factors impacting an e-Government initiative at every stage of the implementation process.

2.7.1.2 Four Phases E-Government Development Process

According to Auditing e-Government Report (2010), the e-Government development process can be described as a continuous series of activities divided into four phases namely: initiation, planning and implementation, operation, and monitoring. The four phases must be completed sequentially.

(i) Initiation Phase: Initiation is the first stage of an e-Government development lifecycle where government defines their vision and clear objectives. This is the most important stage of the lifecycle process because other phases rely heavily on its lucidity and practicality integrated in this phase. Even if the final aim of the implementation process is transformation while that of initiation is to articulate the vision of the government for getting on with the project (Auditing e-Government Report, 2010).

(ii) Planning and Implementation Phase: Human and financial resources are the most crucial factors contributing to the successful implementation of a project. Planning involves all activities leading to the formulation of the objectives and establishing the strategies to achieve them, while implementation can simply be described as the process of executing plans and strategies to accomplish a desired goal or provide the detailed services (Auditing e-Government Report, 2010). The prime issues under this phase include coordination, execution, availability, user-friendliness and scalability. But, some risks that are associated with implementation appear during development, running and delivering of the process and during maintenance.

(iii) Operation Phase: The operational phase refers to the state of systems being functional or operative. The objectives of this phase are to ensure reliable daily processes and advanced systems' integration in order to accomplish prompt service delivery or transformation (Auditing e-Government Report, 2010).

(iv) Monitoring Phase: This phase has to do with the observation and checking of the progress of a system for a certain period and keeping a systematic review of it, even though it takes an e-Government project a long time to accomplish. The main issues attached with this phase include services build-up, capturing and resolution of customers' feedback (Auditing e-Government Report, 2010). However, the researcher contends that this type of project development process seems to be unfit for the present-day electronic government implementation procedure. This is as a result of the advancement and rapid transformation in technology which the process will not be able to address.

2.7.1.3 Five Phases E-Government Implementation Process

Heeks (2006) in his study categorised the e-Government development project lifecycle into five stages namely: project assessment, analysis of current reality, design of new system, system construction, and implementation and beyond. These are discussed as follows:

(i) Analysis of Current Reality: At this stage, the necessary project features are defined, as well as the assessment of whether to or not to continue with the project (Heeks, 2006).

(ii) *Project Assessment*: This phase is made up of basically soft and hard techniques like information systems analysis, problem analysis, information systems audit and content analysis required to build a prototype.

(iii) *System Design*: This is the stage where the new system is designed and consists of defining the different objectives and synthesising them together to meet up with the new system (Heeks, 2006).

(iv) *System Construction*: This phase consists of all the activities and processes involved in acquiring new IT equipment, building and installation of the new e-Government system.

(v) *Implementation and Beyond*: This phase involves the acquisition and testing of the new e-Government system. Also, included in the phase are file creation, change-over and documentation (Heeks, 2006).

2.7.1.4 Systems Development Process Using Spiral Model

The spiral model is another approach to a systems development process that was devised in the 1980's. Boehm was the first to develop the spiral model, hence the model was called Boehm's Spiral Model as shown in figure 2.9. This model epitomises an evolutionary (gradual directional change) approach to systems development. The spiral model is an iterative methodology that involves carrying out of the same activities over a number of cycles so as to make clear requirements and solutions (BPP Professional Education, 2006).

This approach of systems development involves constructing an initial prototype at the initial phase of the expansion process which starts from the centre of the spiral. The requirements are not always well refined at the centre, which as a result calls for more rotations. The more rotations around the spiral, the more the system requirements are refined (BPP Professional Education, 2006).

The model is divided into four quadrants and the purpose of each quadrant is stated as follows:

- *Top-left*
 - Determination of the objectives of the project
 - Identification of alternatives and constraints to the project.
- *Top-right*
 - Evaluation of different alternatives
 - To evaluate the risks of each alternative and to resolve them.
- *Bottom-right*
 - System development
 - Implementation of the system
- *Bottom-left*
 - Planning of the next stage of the development process (BPP Professional Education, 2006).

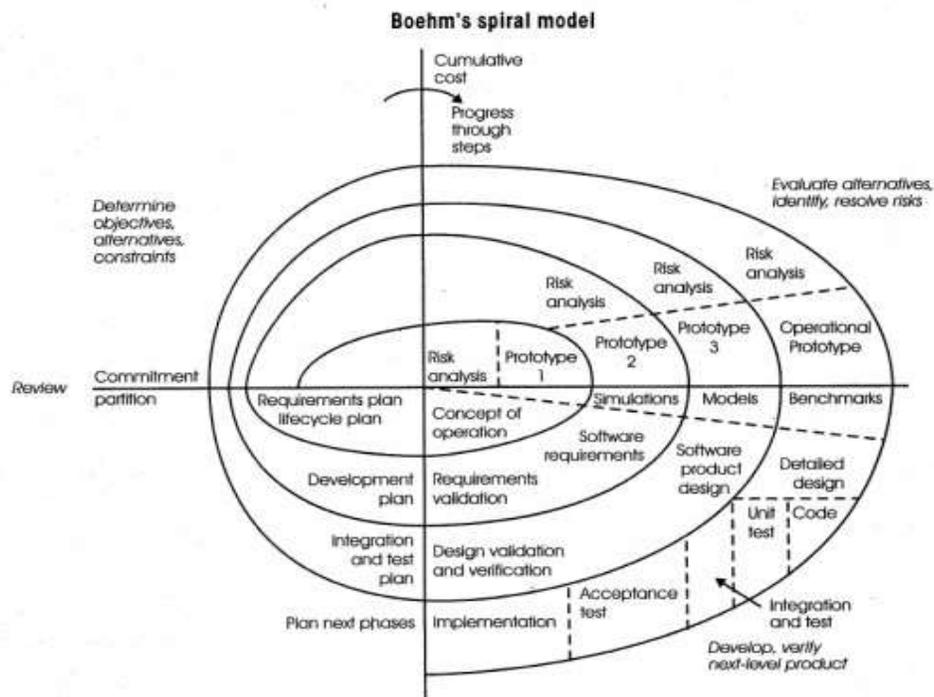


Figure 2.9: Spiral Model for Systems Development
 (Source: BPP Professional Education, 2006: p. 148)

However, the spiral model is more appropriate for complex situations where requirements are difficult to specify and it is unrealistic to follow a sequential process which relies on getting things correct at each stage of the development before starting subsequent activities.

2.7.2 Phases of E-Government Development Process

Review of various literature reveals three fundamental stages involved in the e-Government development process. These stages are important because they allow e-Government executors (implementers) to determine the key stakeholders and their activities in the implementation process. The three phases are the pre-implementation (design) phase, implementation (development) phase, and post-implementation (deployment) phase. Various researchers affirm that projects begin from the pre-implementation or initial phase and undergo processing until it gets to the post-implementation or final phase (Heeks, 2006; Sharifi & Manian, 2010; Al-Rashidi, 2012; Ashaye 2012).

For best practice this study adopts the three-phase e-Government implementation process theorised by Al-Rashidi (2012) as shown in figure 2.10. The reason for this is that the implementation process is not complex and helps the researchers or individuals to have a profound understanding of the process of implementing an integrated e-Government system.

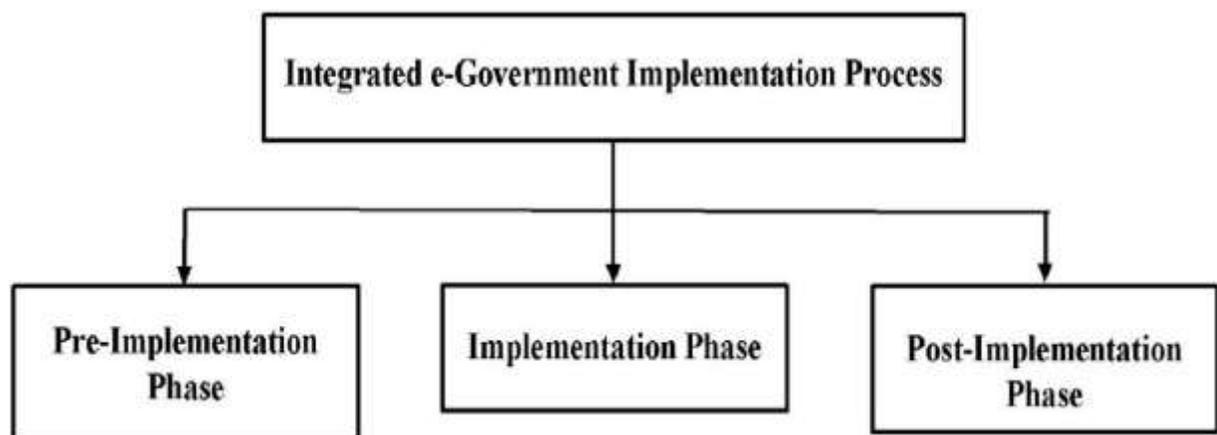


Figure 2.10: Integrated e-Government Implementation Process

(Source: Adapted from Al-Rashidi, 2012)

Moreover, each phase of the development process has its own important factors that fit into this study which allows the researcher to identify the key activities of the stakeholders at every stage of the development process.

(i) Pre-Implementation Phase

This is the first stage in integrated e-Government implementation which starts with the government or agencies sending a 'Request for Proposal' to the ICT department within the same agency (Sharifi & Manian, 2010). The first phase according to Al-Rashidi (2012), comprises of finding a project leader, provision of adequate budgeting and reliable ICT infrastructure, upgrading of legacy systems and strategising.

Al-Rashidi (2012) argues that almost all the responsibilities at the implementation stage lies with the political stakeholders. Therefore, government stakeholders must cooperate with one another to make the project a huge success. Though, some of these responsibilities or activities in this phase may be extended to implementation and post-implementation stages. For instance, the project leader may continue to manage the project implementation from the beginning (pre-implementation stage) to the end- post implementation stage (Forsberg, Mooz & Cotterman, 2005). It is noted that the project leader's responsibilities and roles may change from one stage to the other. Issues to be addressed in this phase include resolution of conflict that may occur among the stakeholders, and resources and strategies should be clearly defined for the stakeholders so as to ensure a successful implementation process.

(ii) Implementation Phase

This is the second stage of the integrated e-Government implementation process which commences immediately after the completion of the first phase, and is the most critical stage in the process. The technological stakeholders working in the government agency are mostly responsible at this stage (Reich & Benbasat, 2000, Al-Rashidi, 2012). At this stage, the integrated e-Government is developed in the agency's IT Department or supervised by its personnel if outsourced. Other important issues in this phase include resistance to change, corrupt practices, Business Process Re-engineering (BPR), reward and punishment, and

recruitment of qualified ICT staff. This stage ends after the integrated e-Government is placed online on the integrated portal.

(iii) Post-Implementation

This is the last stage of the implementation procedure which commences after the deployment of the integrated e-Government system. This phase is also crucial and needs the cooperation of the integrated portal administrators, project beneficiaries, business partners and end users to work together (Yu, 2005). The essential aspects of this phase are legislation, privacy and security, and ICT training. The responsibilities associated with this stage lie with the agency's stakeholders since they would manage the activities going on at the back-office after the online deployment of the system.

Hence, the researcher submits that the implementation phase involved in an Information Systems and Technology project such as an integrated e-Government development process has been analysed, to propose a framework for the implementation of an integrated e-Government system in the Lagos State Housing and Urban Development Agencies.

2.8 Theories and Models in E-Government Implementation

There are various theories and models in e-Government literature that suggests important factors and contexts useful for different stages of development. These theories provide an enhanced visualisation and better comprehension of e-Government implementation. Nevertheless, both the practitioners and researchers of e-Government encounter the challenges of being able to identify the various factors and their optimum combination (Edington & Shin, 2006). The fact remains that many researchers seek to recognise the various factors that add to the implementation of e-Government (Moon, 2002; Abdulla 2012), however there are still gaps when it comes to the integration of these factors into a holistic model (Edington & Shin, 2006).

In e-Government development, a number of studies (for example, Edington and Shin, 2006; Abdulla, 2012) have identified factors to be considered in the implementation process. Since the aim of the study is to develop an integrated electronic government framework for the HUDA in Lagos State, Nigeria, the author discusses some of the theories and models that are relevant to the research. However, effort has been made to adopt some elements from three of these models and theories that fit into the study environment.

2.8.1 The Technology-Organisation-Environment (TOE) Framework

The technology-organisation-environment (TOE) framework was developed by DePietro et al. (1990). The TOE framework is an organisational level theory that identifies the three contexts or dimensions of an enterprise influencing the process of adoption and implementations of technological innovations. These contexts are technology, organisation and environment as depicted in figure 2.11. (DePietro et al., 1990).

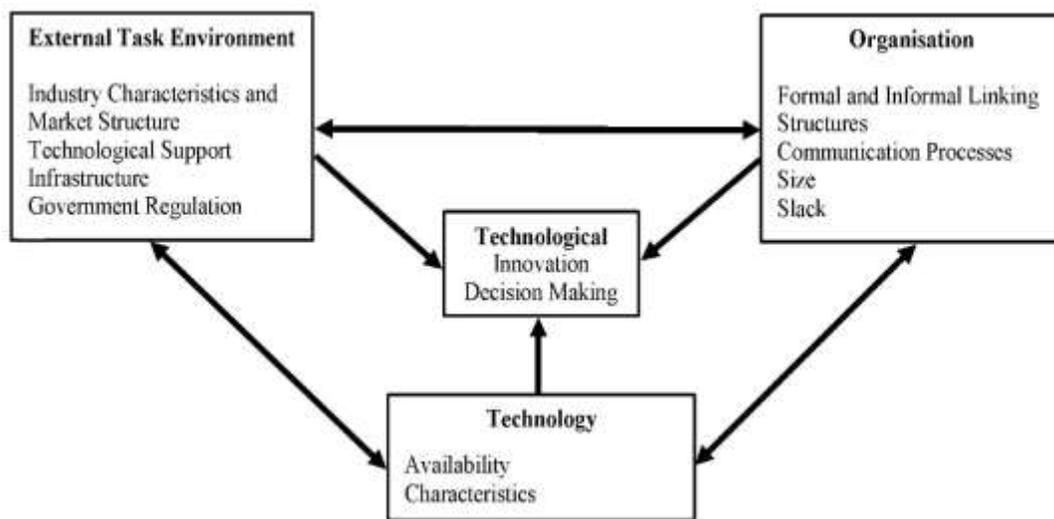


Figure 2.11 Technology-Organisation-Environment (TOE) Framework

(Source: DePietro et al., 1990)

This study embraces the TOE framework as one of the three models used in the research. The reason is that the theory helps to identify the three contexts of an enterprise that affects the procedure for the adoption and implementation of technological innovations such as the

integrated e-Government system. It also allow for easy additions of other benefiting factors from other models. The TOE framework will be discussed in detail in chapter three.

2.8.2 The Drivers-Barriers Model

Hamed et al. (2008) postulate the ‘drivers-barriers model’ (drivers and barriers). From the investigation it was noticed that there are many drivers and barriers to e-Commerce adoption. The model suggests that barriers and benefits ought to be considered as variables impacting the process of implementing e-Government systems. The researchers (Hamed et al., 2008) identify twelve potential issues that can either be classified as drivers or barriers in the development the of e-Commerce economy of a country.

The twelve issues that commonly impact e-Commerce adoption in many countries according to Hamed et al. (2008) are stated as competition costs, religion and culture, economic activities, employment, infrastructure, government, e-Commerce understanding, payment system, legislation and regulation, security and traditional business. Even though the study was specifically for the Libyan economy, the proposition recommends that the model can be adopted since the drivers and barriers are prevalent in most developing countries.

It therefore suggests that some of the elements in the drivers-barriers model can be used, and not necessarily the structure, by researchers to determine the benefits and challenges confronting the implementation of e-Government innovation in other developing nations. Since this model was developed on the basis of e-Commerce research findings in a developing nation and considering the twelve issues highlighted in the model which are more or less similar to Nigeria.

The researcher opines that adjusting this model and adopting it with other models and theories will be beneficial to this study. Consequently, this research adapts the drivers and barriers model postulated by Hamed et al., (2008), as an aspect of the conceptual system to identify the perceived benefits and perceived barriers influencing integrated e-Government implementation in Lagos State Nigeria.

2.8.3 Three-Quarter Moon Model

In a later study Hamed (2009) proposes the three-quarter moon model for the economic development of Libya. In his study it is perceived that e-Commerce may be a driver and barrier in Libya or other developing countries, since there are no organisations accountable for the planning of e-Commerce. Hamed (2009) remarks that some drivers which are obvious in the developed nations are yet to be observed in developing countries. A further two dimensions, knowledge and security of e-Commerce were identified.

In an effort to proffer a solution to the question, “How can e-Commerce be adopted in Libya?” Hamed (2009) established a strategy whereby infrastructure was an essential factor for the adoption of e-Commerce. The author also notes that drivers and barriers can be used to classify nations according to their technological development. The new classifications divide countries into technologically, less-technologically and technologically advanced countries. These categorisations are driven by four key actors. The first actor is government followed by technologically advanced countries which is the second, the third actor is companies while the fourth actor is e-Commerce user as depicted in figure 2.12.

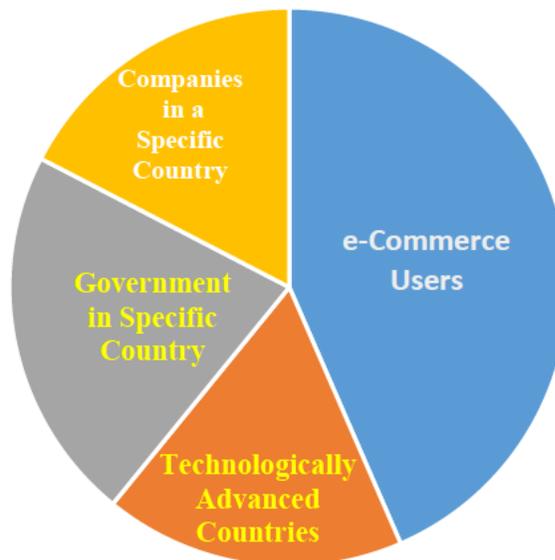


Figure 2.12: Three-Quarter Moon Model

(Source: Hamed, 2009)

Hamed (2009) remarks that as soon as the government in a particular country agrees with technologically developed nations on the types of technology to adopt, then the two allies can work collectively in order to deliver the required technology and train the government personnel on the usage and maintenance of the adopted technology. The company which is the third actor either public or private, plays a significant role to increase the numbers of e-Commerce users with the provision of online services at a reduced price.

The participation of e-Commerce users, which is the fourth actor is the result of the first three actors of the economy. Therefore, the participation of the end users is seen as reliant on the first three actors' acts (actions) on the economy. The model suggests the need for government to note that technology is speedily advancing and as a result, innovative work projects are required to keep abreast with updated technological changes. This study adopts the three quarter moon model as the third to complement the TOE and the driver-barriers models, such that it helps to recognise the main stakeholders in the implementation process which is crucial to this study.

2.8.4 E-Government Implementation Model

The e-Government (E-Gov) implementation model was developed by Ashaye (2014), whose study focuses on the appraisal of E-Government implementation in developing nations. The framework is made up of combinations of models namely, the institutional theory, three-quarter moon model, driver and barrier model, and the comprehensive barrier framework. This study would have adopted the e-Government implementation framework developed by Ashaye (2014) directly, but the model only considers organisational factors and fails to ponder technological and environmental factors as identified by the TOE model. These two factors are critical during the process of integrated e-Government implementation.

For instance, the technological factor is the main source of power that enables the transformation process of integrated e-Government implementation (Al-Solbi & Mayhew, 2005; Abdalla, 2012). Whilst the environmental factor refers to the different sustainable

situations in which that organisations or government agencies conduct their services. These two factors greatly impact on integrated e-Government implementation.

Furthermore, the researcher observes that Ashaye's (2014) e-Government implementation framework seems generic. It does not address the specific problems confronting the housing and urban development agencies in Lagos State, Nigeria, such as fragmentation of development agencies, lack of inter-operability of electronic government services among agencies and integration of electronic government portals. The framework was also not designed to integrate agencies.

2.8.5 Technology Task Fit (TTF) Model

Goodhue and Thompson (1995) developed the task-technology fit (TTF) model which defines the degree to which a technology assists an individual in performing his or her tasks. According to Goodhue (1995), technologies are regarded as tools used by individuals in performing their tasks, while tasks are described as the actions performed by individuals in changing inputs into outputs. In order for an information system to have a positive impact on individual performance, technology must be utilised and there must be a good fit with the tasks the technology supports (Irick, 2008). However, there is limitation with adopting the TTF model in this study. The model focuses on fit alone and do not give adequate attention to the fact that systems must be utilised before they can have any impact on performance. Based on this limitation the model was considered inappropriate because it does not provide the necessary factors required for the implementation of e-Government initiative.

2.9 Chapter Summary

This chapter presented the review and synthesis of relevant literature in order to discover and identify the key research issues related to integrated e-Government implementation. 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 integrated e-Government implementation concepts such as the key implementation factors and perceptions, the major stakeholders influencing the implementation process as well as the theories and models in the information systems field guiding the implementation process.

However, studies such as Abdalla (2012), Al-Rashidi (2012) and Ashaye (2014) have revealed that there is a relative lack of research on the integrated e-Government implementation. The researcher identified the gaps in literature such as a lack of tested and validated theoretical models which can directly be adopted by the integrated e-Government implementation for Lagos State development agencies. The researcher further discussed the holistic contexts encouraging the development of an integrated e-Government system in the agencies.

From the review and analysis of the existing models and theories in Information Systems, there is no single model or theory that could be adopted for the implementation of the integrated system in HUDA. Hence, combinations of three models were adopted, which are the TOE model developed by DePietro et al. (1990), the drivers-barriers model by Hamed et al. (2008) and the three-quarter moon model by Hamed (2009) to develop an innovative framework for an integrated e-Government platform for Lagos State Housing and Urban Development Agencies.

The chapter therefore generated a background for the concept of integrated e-Government in the Lagos State HUDA which alleviates the misunderstanding surrounding its application in public agencies. This stage, is however, considered to be a significant phase of the integrated e-Government implementation strategy plan. In the next chapter, the researcher presents the proposed conceptual framework.

CHAPTER THREE

CONCEPTUAL FRAMEWORK

3.1 Introduction

As discussed in chapter two of this study, there is a scarcity of literature that generally examines the process of implementing an integrated e-Government system, and none on the Housing and Urban Development Agencies (HUDAs) in Lagos State, Nigeria which makes the study unique. After a critical review of the relevant literature, the researcher identifies the importance of integrated e-Government implementation which is the current trend of e-Government growth that needs to be underscored. In addition, chapter two of the study unveiled the different theories and models used in Information Systems' studies from which substantial factors supporting integrated e-Government implementation were identified.

This chapter aims at conceptualising a framework that will support the implementation of an integrated e-Government system in the HUDA. To start with, section 3.2 justifies the need for an integrated e-Government framework considering that there is no unified framework identified after a critical review of related studies in chapter two; whereas section 3.3 discusses the factors influencing integrated e-Government implementation. Section 3.4 deliberates on the perceptions of integrated e-Government features affecting implementation, whilst section 3.5 helps to identify the major stakeholders and their core activities in the integrated e-Government implementation process.

Section 3.6 explains the three phases of the e-Government implementation process which are the pre-implementation, implementation and post-implementation phases. Section 3.7, on the other hand, maps out and presents the integrated e-Government features or factors and the core activities of the major stakeholders at every phase of the development process. Section 3.8 presents the planned conceptual framework for the implementation of an integrated e-Government in the Lagos State HUDA. Section 3.9 highlights the strategy to validate the

developed conceptual framework, whilst the last section briefly summarises the entire chapter.

3.2 Justification for Models and Theories in an Integrated E-Government Framework

The significance and dependence on ICT in enhancing organisational performance has grown astronomically particularly since the beginning of the 21st century. Moreover, the development in technology has created awareness among the public sector organisations of technology enhanced services and given them the opportunity to deliver public services proficiently.

It is noted that ICT is a crucial and relevant contributor to economic growth and social mobility (National Audit Office, 2011). Governments all over the world are considering new ways that will engage the use of ICT in a more adaptive manner, enable quick operation of new systems and that will keep pace with constant change in business requirements, people, strategies and processes. Thus, the researcher posits that integrated e-Government is an ICT based initiative that has emerged with techniques and tools for bringing potential benefits to public agencies, citizens and businesses. These benefits include enhanced co-ordination and communication between agencies, increased government accountability, savings as a result of reduced costs as well as improved citizens' participation.

Therefore, the researcher proposes the development of a framework that could become a vital and appropriate strategic blueprint for the implementation of integrated e-Government in the HUDA. It is envisaged that this framework would be used as a guideline and serve as a reference for the implementers and decision-makers in government agencies, most especially the Housing and Urban Development agencies in Lagos State, Nigeria.

From the reviewed literature, it is evident that there are limited theoretical and conceptual frameworks in Information Systems that analyse the implementation of an integrated e-

Government process in government agencies in the developing nations. A few focused specifically on drivers and barriers of e-Government (Hamed, 2009; Ashaye, 2014), while most of the developed models were based on generalisation of implementation factors - without being categorised into technological, organisational and environmental factors.

This study identifies the gaps between the existing e-Government growth models in literature and the implementation of an integrated e-Government process. As a result, an integrated e-Government framework based on the theories discussed in chapter 2 (section 2.9) is derived. The researcher therefore involves the development of a newly formulated conceptual framework founded on an in-depth review and analysis of vital information gathered from different studies. The researcher also takes into account the perspective of Information Systems in proposing a framework. From the review and synthesis of the existing models and theories in Information Systems, there is no single appropriate model or theory that that can be adopted for the implementation process in the Lagos State HUDA.

Hence, the researcher classifies the issues into themes after reviewing the relevant literature and frameworks with the aim to propose a suitable framework that will integrate three models. These are the Technology-Organisation-Environment framework developed by DePietro et al (1990), a modified drivers and barriers model developed by Hamed et al. (2008) and the elements of three-quarter moon model introduced by Hamed (2009) to develop an integrated e-Government framework for the Lagos State HUDA.

The proposed framework is classified into the following: *Integrated e-Government implementation factors* (technological, organisational and environmental); *integrated e-Government implementation perceptions* (perceived benefits, perceived barriers and perceived risks); and *major stakeholders* (government, private sectors and the public or customers). For best practice, this study adopts the three-phase e-Government implementation process theorised by Al-Rashidi (2012). This theory involves three phases which are *pre-implementation*, *implementation* and *post-implementation*. Earlier studies did not provide a comprehensive account of these concepts, and if not carefully deliberated

would adversely influence integrated e-Government implementation especially in the Lagos State HUDA which is the case study of the research (Hamed et al., 2008; Hamed, 2009; Ashaye, 2014).

In order to develop a contextual perspective of the framework, the researcher combines three different relevant frameworks to design a well-planned model that will be useful to address the study's research questions. This study includes the basic factors in the Technology-Organisation-Environment framework by DePietro et al. (1990); extended drivers and barriers model (Hamed, et al., 2008) and some elements of the three-quarter moon model earlier reviewed in the study.

While it is important to determine the technological, organisational and environmental factors that can influence the integrated e-Government implementation, other key factors, specific to the context of the study needs to be considered. Hence, the TOE framework is one of the models adopted. The drivers-barriers model acknowledges that drivers in one country may be barriers in another. Therefore, the researcher suggests that some of the elements in the drivers-barriers model can be used and not necessarily the structure. Some of the elements in the drivers-barriers model are modified to determine the benefits, barriers and risks challenging the implementation of e-Government in the Lagos State HUDA. It was further determined that the three-quarter moon model was specifically for e-Commerce adoption in the Libyan economy, although the extended version of Hamed's (2009) model is applicable to other nations. Hence, the e-Commerce model was adapted to include the roles of the major stakeholders in an integrated e-Government implementation in the Lagos State HUDA.

It must be noted that a framework that will be applicable for a particular context, the Housing and Urban Development Agencies (HUDAs) in Lagos State, Nigeria, is necessary. Although, the framework is theoretical, it falls within the case study of the Lagos State HUDA where the structures of government and levels of decision-making may not be the same as other nations.

Thus, the intended conceptual framework would assist the researchers, ICT managers, decision-makers and government officials in the Lagos State HUDA to develop a structured method of implementing the actual procedure in their agencies. Similarly, it would eradicate the misconception surrounding the key implementation factors (technological, organisation and environmental), and the pre-conceived perceptions (perceived barriers, perceived benefits and perceived risks). In addition, it will highlight the core activities of the major stakeholders (government, private sector and the public) at every development stage affecting the implementation process within the government-to-government and government-to-citizen contexts.

To sum up, the application of this proposed framework would assist the policy-makers to draw a strategic action plan and vision statement for government in this IT innovation age, through the identification of key implementation factors, perceptions and major stakeholders in the implementation process.

3.3 Factors Influencing Integrated e-Government Implementation

Another critical concern in the process of implementing integrated e-Government is the necessity to identify the major factors influencing e-Government implementation in the government agencies. As earlier reviewed in chapter two, the concerns can be technological (e.g. ICT infrastructure, technological innovation, technological readiness and interoperability); organisational (human top management, organisational change and change management) and environmental (e.g. political will and support, cultural and socio-cultural norms, economic and regulatory policy) (Agunloye, 2007; Irani, Dwivedi & Williams, 2007; Ashaye, 2014).

According to Altameem (2007) and Baker (2011), most of the studies on ICT innovations are tailored towards end-users computing such as e-mail, personal computer and spreadsheet or application specific (e.g. database, ERP- Enterprise Resource Planning, EDI- Electronic Data Interchange). Additionally, many of the studies relate to individual perspective such as

consumers, households and user acceptance as well as adoption of technology. Whereas pintsized studies (e.g. Hamed, 2009 and Ashaye, 2014) were conducted on the adoption and implementation that impacts on the whole organisational section in terms of business process, cultural issues, ICT infrastructure and top management support.

However, the researcher plans to build a holistic e-Government structure that could be applied by decision makers and ICT practitioners for the evaluation and standardisation of the developmental phase; in relation to organisational behaviour and change due to integrated e-Government implementation. The intended framework is to support the e-Government implementers or ICT practitioners in government public agencies. Likewise, to have an exhaustive understanding of the process of implementing integrated e-Government, as well as the significance of organisational readiness and the impact organisational change would have on the environment.

Furthermore, it was found that previous studies (e.g. Enyon & Dutton, 2007 and Ashaye, 2014) indicate that most frameworks and models for the study of ICT initiatives in a multifaceted environment like the public agencies, which are characterised by multi-disciplined and multi-cultural issues necessitate additional factors. This includes available technology within the organisation, competency of the organisations and external environment, as many studies recognise them as the foremost illustrative factors. These factors are identical to the three contexts explained in DePietro et al (1990) model.

In particular, the researcher adopts the Technology-Organisation-Environment framework developed by DePietro et al. (1990) as the initial part of the proposed model for the integrated e-Government system. Integrating this TOE framework and other models (drivers and barriers, and three-quarter moon) earlier reviewed in the previous chapter will enable the researcher to theorise a holistic framework for implementing integrated e-Government system. This will obviously add to the Information Systems field.

Technology-Organisation-Environment (TOE) Framework

The TOE framework is an organisational level theory that identifies the three contexts in a firm that influences adoption decisions. The three elements which are *technological*, *organisational* and *environmental* contexts are postulated to influence technological innovations (Baker, 2011). DePietro et al. (1990) clearly state that the choice of an organisation to adopt technology innovation is not only dependent on technological factors, but also on organisational and environmental contexts. In this same vein, Pudjianto and Hangjung (2009), confirm that the TOE framework has emerged to be an applicable theoretical lens for understanding technology implementation and adoption.

DePietro et al. (1990) observe that technological context influences adoption and implementation of IT innovations in different businesses and organisations. The technological context describes the external, internal as well as the new and existing technology that is relevant to the organisation. It also entails the characteristics of ICT innovations such as compatibility, availability and complexity, all of which significantly affect the adoption and implementation of IT innovation (Low et al., 2011; Saedi & Iahad, 2012). Additionally, technological context includes equipment and current practices internal to the firm and the set of obtainable technology external to the organisation.

Organisational contexts that include, the size of the organisation, its resources, the linkage structures between the employees, communication processes and the amount of slack resource, affect the implementation and adoption decisions on ICT innovations in many ways (DePietro et al., 1990). Firstly, the mechanism connecting the subdivisions of the firm or spans of internal boundary promotes innovation. Moreover, the presence of informal connecting agents like boundary spanners, gatekeepers and product champions are connected with adoption. Other studies on organisational systems specify that while distributed and organic structures may be suitable for the adoption stage of an innovation process, mechanistic rather than organic structures with emphasis on centralised decision-making, formal reporting relationships and unmistakably well-defined roles for employees is most suitable for the implementation stage of an innovation process (Baker, 2011).

Environmental context as described by DePietro et al. (1990) is the show ground where an organisation carries out its business, and this include the industry structure competitors, availability or nonexistence of technology service providers as well as the regulatory environment. Environmental context influences the implementation of IT innovations in a number of ways. To start with, infrastructure support for technology influences IT innovations.

Additionally, the availability of consultants, skilled labour or other suppliers of services and technology promote innovation, while organisations that pay high incomes to skilled workers are frequently obligated to transform through labour saving innovations (Baker, 2011). Lastly, government regulations can either have an advantageous or adverse effect on innovation. Indeed, these three elements influence an organisation's level of technological innovations such as an integrated electronic government system under investigation.

The TOE model has a theoretical base for Information Systems adoptions and has pragmatically been tested and found applicable for technology innovations in various types of organisations (Ebrahim, 2005). The three recognised contextual aspects which are technology, organisation and environment are believed to influence an organisation's innovative adoption decision which ultimately influences its process.

Nevertheless, the TOE model has not been extensively used in the context of e-Government like in e-Commerce and e-Business where it has been successfully adopted, however they do share common features related to contexts of e-Government which supports electronic transactions (Carter & Belanger, 2005; Abdalla, 2012). E-Government, e-Commerce and e-Business are innovations based on Internet technology designed for expediting the exchange of information between organisations as well as goods and services (Abdalla, 2012). Table 3.1 illustrates some of the research studies where the TOE framework has been used successfully in an e-Government scope.

Table 3.1: Research Studies Using the TOE Model in Information Systems Domains

| Research Using TOE | Information Systems Domain | References |
|--|--|--------------------------------|
| “What Facilitates e-Government Development? A Cross-country Analysis” | ICT infrastructure, human capital, macro economy, public institutions and technology development. | Srivastava and Teo, (2007). |
| “The Adoption of e-Government in the Kingdom of Bahrain” | Adoption of e-Government and ICT infrastructure. | Ebrahim, (2005). |
| “E-Government Critical Factors in Public Sector Organisations in Saudi Arabia” | Government factors, telecommunication information, organisational structure, vision structure, vision strategy and top management support. | Altameem, (2007). |
| “Factors Affecting E-Government Assimilation In Developing Countries” | Extent of coordination, ICT expertise, ICT infrastructure, competitive environment, top management support, organisational compatibility and regulating environment. | Pudjianta and Hangjung (2009). |
| “An E-Government Adoption Framework for Developing Countries: A Case Study of Sudan” | Adoption of e-Government, ICT infrastructure, ICT strategy, organisational culture, technological and environmental context, and interoperability. | Abdalla, (2012). |

Consequently, the researcher is of the belief that the TOE framework is an appropriate model to explain the factors that influence the implementation of integrated e-Government in the HUDA. Furthermore, it provides a study base to assess the implementation of technological innovation in different government agencies. Figure 3.1 shows the three major aspects of the TOE model affecting the implementation process. The researcher links each of the major key factors with sub-factors which help to explain the functions of the main elements in integrated e-Government implementation process in the HUDA.

A number of advantages or reasons for using the TOE model are stated as follows:

- The TOE model highlights the three basic contexts (technology, organisation and environment) that play a critical role in order to accomplish technology implementation. These contexts are akin to the factors identified by the study in section 2.4 of chapter two as well as in various e-Government models revealed in section 2.9 of the same chapter.

- The TOE model is flexible which leaves room for the addition of more factors and classifications. This allows the researcher to include more manifold classes of factors and apply the framework in agreement with the study's findings.

The aim of this research is to develop a holistic system which reveals the relationships among the different features influencing integrated e-Government implementation process. The Technology-Organisation-Environment framework is developed to reflect such factors and interactions. The three elements of the TOE model are explained in subsequent subsections.

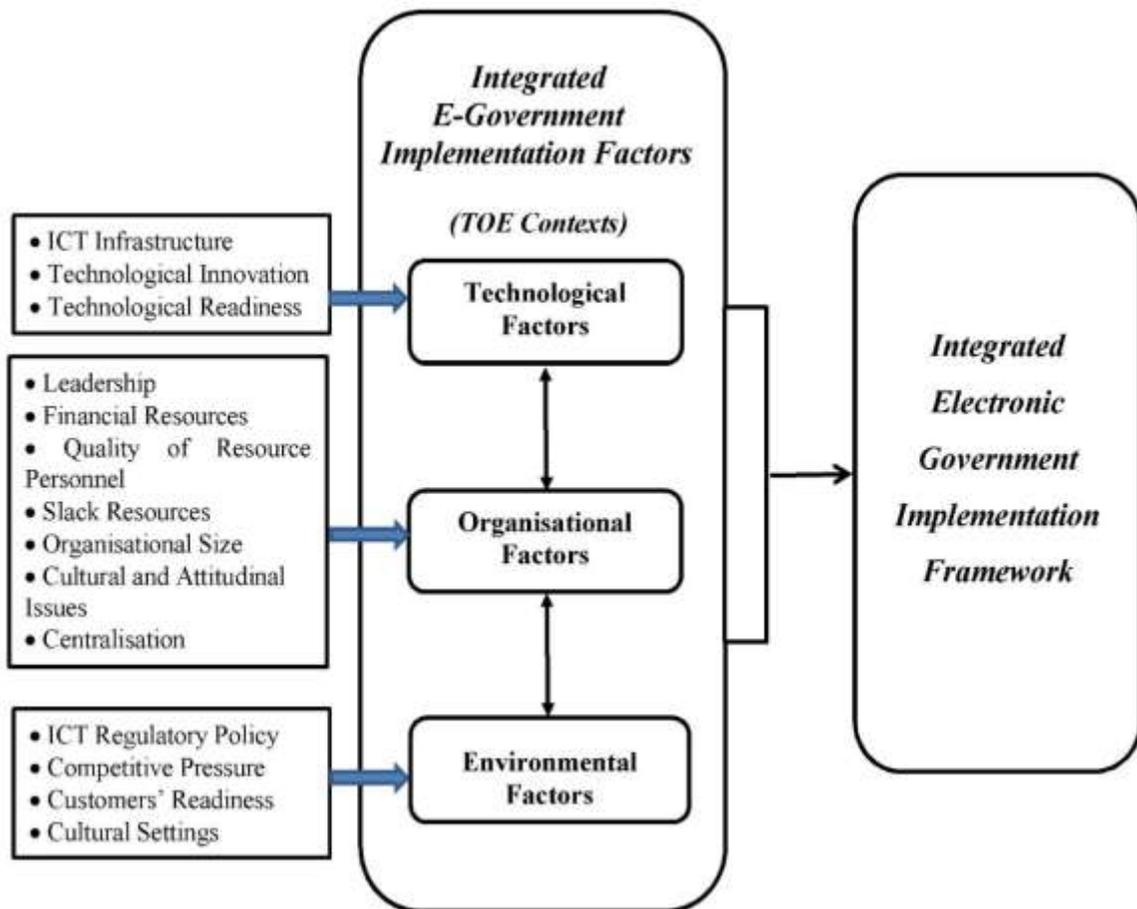


Figure 3.1: Integrated e-Government Implementation Factors Using TOE Contexts

3.3.1 Technological Factors

The technological factors represent the pools of technology that are in use by the organisation and the new ones available in the market but not presently used. Integrated e-Government needs a considerable notch of technical competency to guarantee an effectual and smooth implementation. This makes technological context particularly important as it comprises sub-factors which are ICT infrastructure, technological innovation and technological readiness. These sub-factors are required to address the unequivocal needs of integrated e-Government implementation in the Lagos State HUDA.

According to Srivastava and Teo (2007) many studies using the TOE model indicate that the successful adoption of technological aspects help organisations to exploit their potential benefits and values. The study further affirms that the availability of a well-developed ICT infrastructure in conjunction with a total auspicious technological environment is crucial in the innovation implementation process.

Thus, technological factors have been identified amongst the most critical issues affecting e-Government implementation in less-developed nations like Nigeria where this study is conducted. The technological factors are delineated into sub-themes and are described accordingly.

(i) Information and Communication Technology (ICT) Infrastructure

This is made up of various combinations of software and hardware technology available in the organisation. It makes available the essential infrastructure required for continuous communication or stream of information amongst the government and the citizens (Srivastava & Teo, 2007, Durbhakula & Kim, 2011)

(ii) Technological Innovation

This factor refers to a country's need to introduce new technology in order to improve its efficiency (Porter, 2005; Durbhakula & Kim, 2011).

(iii) Technological Readiness

This consists of technological infrastructure and IT human resources. Technology infrastructure is responsible for building a platform such as technical inter-operability and layout design, while IT human resources provide the knowledge base for the integrated e-Government applications (Abdalla, 2012; Zhu, 2014).

3.3.2 Organisational Factors

Organisational factors refer to the features and resources of an organisation in terms of its size, formalisation, centralisation, quality of human resources and managerial structure as well as the quantity of slack resources available within the firm (Scott, 2007; Baker, 2011). In order to retain the values, visions and aim of motivated stakeholders in any e-Government project, there is the need for organisational skills and effective communication (Sharm & Gupta, 2003; Nkohkwo & Islam, 2013). The themes identified as organisational factors are described below.

(i) Leadership

The leadership role is an important implementation factor. This involves the active commitment and support of top management officials. Top management position can be determined by the level of education, management skills, leadership skill, technical and age of personnel. This dimension has been known as a predictor of a successful implementation of e-Government in public agencies (Ebrahim, 2005; Song, 2006; Ashaye, 2014).

(ii) Financial Resources

This refers to the extent to which financial resources are made accessible for the funding of integrated e-Government projects such as consultancy costs, staff training and maintenance costs. Thus, adequate financial funding arrangements positively influence implementation and ensures its successful completion (Ebrahim, 2005; Bernhard, 2014; Ashaye 2014).

(iii) Quality of Resource Personnel

This refers to the extent to which government employees possess expertise and a comparative high knowledge, usually determined by their degree of competence and occupational specialisations articulated by formal education and training (Al-Shehry, 2008; Ashaye, 2014).

(iv) Slack Resources

This connotes the extent to which unused resources are available within the organisation. There are essentially three forms of resources in an organisation namely financial, marketing and technological. The financial and technological resources are significant to the integrated e-Government implementation process (Ebrahim, 2005; Ashaye, 2014).

(v) Organisational Size

This refers to the extent to which information services and complex processes in the organisation are delivered to the customers. Organisational sizes are characterised by two features, the volume of services offered directly to the customers and the numbers of employees (Ebrahim, 2005; Scott, 2007; Baker, 2011).

(vi) Cultural and Attitudinal Issue

These factors which include socio-cultural and attitudinal mannerism are rampant among government functionaries. Also included in this aspect is the tendency to indulge in careless or sharp practices, and establish difficult bureaucratic processes for personal interest. These factors have been recognised as some of the challenges responsible for poor implementations of e-Government initiatives in Sub-Saharan Africa (Lam, 2005; Uwadia & Ifinedo, 2005).

(vii) Centralisation

Centralisation refers to the manner in which power and control within the centralised organisation are concentrated in the hands of limited persons, while in a non-centralised organisational setup, decision-making is shared among the management echelons. But because the process of making decisions on integrated e-Government implementation

typically lies with top management, consequently the extent of centralisation will greatly influence the process of implementing integrated e-Government in the Lagos State HUDA (Scott, 2007; Baker, 2011).

As a final point, Pudjianto and Hangjung (2009) opine that the use of the TOE model helps to describe both the tangible and non-tangible contexts of the organisational factors. Many of these dimensions constitutes organisational contexts that could probably affect the process of implementing integrated electronic government in the Lagos State HUDA.

3.3.3 Environmental Factors

Environmental aspects of the TOE model refers to the different environmental conditions under which organisations or government agencies carry out their operations. The accomplishment of e-Government implementation in developing nations depends largely on the external environment which includes economic conditions, cultural settings, political power and legal authority (Abdalla, 2012). Scott (2007) classifies environmental elements influencing e-Government accomplishment as competitive pressure, customer readiness and regulatory environment.

Muhammed (2010) articulates that for integrated e-Government to be successfully implemented there is a need for government to establish an enabling environment for the local computer manufacturer and the coupling of ICT equipment. Socio-cultural and socio-economic are other aspects of environmental issues identified by other scholars (Quina, 2008; Hanson, 2009). This study applies the TOE framework that identifies the critical factors which are technology, organisation and environment in an integrated e-Government field, based on the researcher's understanding as well as the critique of literature reviewed earlier in chapter two. The themes identified as environmental factors are discussed below.

(i) Regulatory Policy

This consists of laws and regulations developed by the state and federal government used to exert control over ICT innovations. This factor assumes a principle role in the simple

operations of the public agencies. Regulatory environment provide a legal and regulatory frameworks that permits and governs the procedures for implementing e-Government and the development of the public agencies (Scott, 2007; Muhammed, 2010; Abdalla, 2012).

(ii) Competitive Pressure

Competitive pressure refers to the intensity of participants who have external power to press hard for an organisation to implement e-Government innovation so as to avoid competitive decline. Government agencies and parastatals may be under pressure to implement e-Government development once it realises that more government agencies are implementing e-Government innovations, and as a result feels the necessity to implement in order to remain competitive (Ebrahim, 2005; Scott, 2012).

(iii) Customers' Readiness

This involves the combination of consumers' willingness such as businesses, citizens, employees and government, and the Internet penetration. The willingness of consumers reflects the extent to which they consent to online services, transactions and interactions. The Internet penetration determines the diffusion of PC's as well as Internet connections among the populace (Ebrahim, 2005).

(iv) Cultural Settings

Culture alludes to a system of communally held values or the way people live their lives. The accomplishment in ICT innovations has been associated with cultural responsiveness. Many factors such as education, language, social norms, lack of trust and fear of technology have been identified to influence integrated e-Government implementation (Altameem 2007; Rosman, Rubel & Weisgrau, 2009; Choudrie et al., 2010).

3.4 Perceptions of Integrated e-Government Influencing its Implementation

The review of literature of the features affecting integrated e-Government implementation revealed that perceived benefits, perceived barriers and perceived risks are among the most critical factors impacting the integrated e-Government implementation process (Enyon & Dutton, 2007; Whitmore & Choi, 2010; Ashaye, 2014). However, there is no concept or model that correlates benefits, barriers and risks together concurrently to form a holistic structure, as risks in most cases according to Ashaye (2014) are usually linked with costs or categorised under barriers or challenges.

Besides the benefits and barriers in integrated e-Government implementation, there is a need to evaluate risk issues, for examples, technological, organisational, financial, process, security and privacy risk. The reviewed literature also demonstrates that there is no exclusive rundown of benefits or barriers for implementing integrated e-Government. In view of this, it becomes imperative to modify the model by adding perceived risk factors in the implementation process for simplicity and clarity.

Therefore, the researcher has embraced a few components of the drivers-barriers model developed by Hamed et al. (2008) as the second part of the framework augmented with risk factors. This is to substantiate various researchers' claims that e-Government initiatives usually result in several risks from the government as well as the citizens which vary from one nation to another (Weerakkody & Choudrie, 2005; Hector, 2012; Al-Rashidi, 2012). Ashaye (2014) has successfully applied the combinations of drivers-barriers model with risk factor to develop an electronic government (E-Gov) implementation model which he used to evaluate e-Government implementation in the developing countries. Figure 3.2 shows the elements of a drivers and barriers model augmented with the risk factor in the integrated e-Government perceptions.

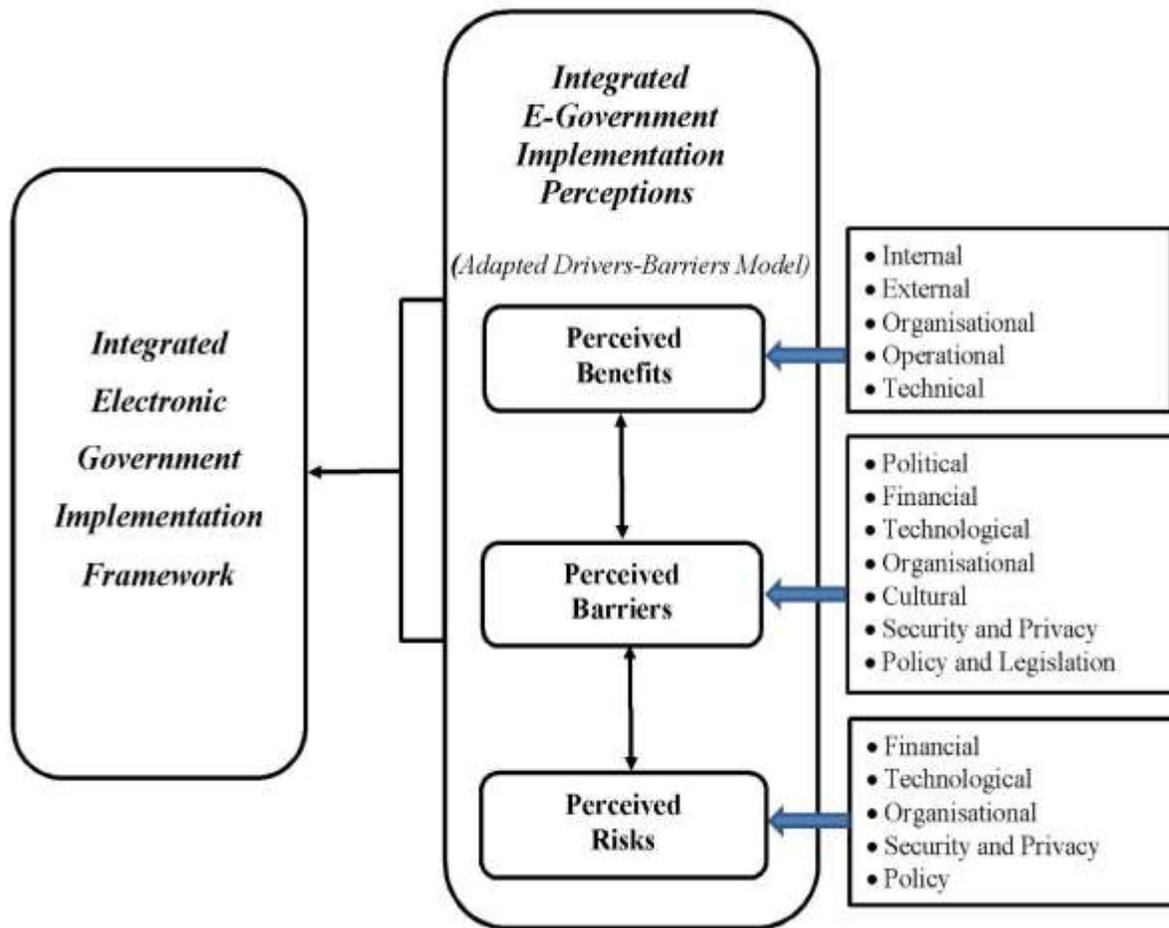


Figure 3.2: Perceptions of Integrated e-Government Implementation
 (Adapted from Drivers and Barriers Model, Hamed et al., 2008)

Drivers and Barriers Model

Hamed et al. (2008) developed the driver and barriers model in the study of e-Commerce for the development of the Libyan economy. The model defines the factors preventing e-Commerce adoption or negatively influencing the implementation process at each phase of the projected model. The model suggests that benefits and barriers should be considered as factors relevant to determining the benefits and challenges confronting the implementation of e-Government innovations. The application of a drivers-barriers model helps to recognise potential benefits and barriers affecting the effective integrated e-Government implementation in this case study.

There are numerous challenges often encountered in the public agencies which hinder the actualisation of expected benefits and reduce the productivity of implemented integrated e-Government projects, though the model does not identify the risks related to the e-Government implementation process. Hence, the model is adapted by the addition of risk factors to address the risks that are connected to integrated e-Government in the Housing and Urban Development Agencies.

3.4.1 Perceived Benefits

Perceived benefits as shown in figure 3.2 refers to the relative advantage or near future gains (Liu, Gui, Cheng, Rongwei and Tseng, 2013) that can be derived from an implemented and operating integrated e-Government system as observed by either the customers or the government public agencies. According to Anderson (2006) the pursuit for the implementation of e-Government innovation is propelled by the policy objectives to increase efficiency, effectiveness, quality of information, enhanced interaction mechanisms, and improved governance tools.

Just like many ICT initiatives, one of the benefits that is often discussed is the reduction of errors. This results in improved efficiency and computerisation of standard validation for enhancing the consistency of outcomes (Beynon-Davies, 2005; Ma et al., 2005). Ndou (2004) summarises the benefits in implementing integrated e-Government systems as the reduction in costs and gain in efficiency, delivery of quality services to customers and accountability.

Other perceived benefits of integrated e-Government are anti-corruption and transparency, an increase in government capacity and promotion of ICT usage by other agencies of the government. Having reviewed various benefits of e-Government innovations as indicated in section 2.5.1 of chapter two, their advantages are summarised below:

(i) Internal Benefits

- It supports government efforts towards well-organised governance.
- Improved transparency.
- Creates partnership opportunity between the business and government.
- Increases productivity of the public agencies.
- Improve efficiency and quality of life.
- It simplifies the complexity of organisational processes (Beynon-Davies, 2005; Ebrahim, 2005; Al-Shafi, 2009; Ashaye, 2014).

(ii) External Benefits

- It improves external relationships with associates and other agencies of the government.
- Increases participation and improved quality of life.
- Computerisation of business procurement system.
- Increased partnership and cooperation with the community and private agencies.
- It attracts more business projects as well as foreign direct investments.
- Improved credibility and enhanced controllability (Navarra and Comford, 2005; Ebrahim, 2005; Kunstelj and Vintar, 2009, Ashaye, 2014).

(iii) Organisational Benefits

- It reduces the personnel assigned to the administrative department.
- It enhances precision of orders.
- It creates opportunities for the citizens to be involved in decision-making.
- Provision of a sure medium to improve government transparency and accountability (Beynon-Davies, 2005; Al-Shafi, 2009; Almarabeh and AbuAli, 2010).

(iv) Operational Benefits

- Reduction in cost of processing and delivery of government services.
- Reduces mistakes and provides a better result by concentrating on standardised tasks.

- Accountability of government operations.
- Better quality of services by removing unwanted processes and less routine tasks
- Motivates government officials by eliminating repetitive jobs (Beynon-Davies, 2005; Carter and Belanger, 2005; Al-Shafi, 2009).

(v) Technical Benefits

- Promotion of technical standard.
- Fast processing and storage of data.
- Reduction in collection, duplication and data redundancy.
- It enhances upgrading of applications and infrastructure.
- Expansion of new service delivery channels and inter-operability.
- It provides portable systems and applications to encourage one-step government (Kalionzoglou et al., 2005; Kunstelj & Vintar, 2009; Martin & Reddington, 2009).

3.4.2 Perceived Barriers

Perceived barriers refer to the challenges confronting e-Government system which may have negative impact during its implementation (Ashaye, 2014). It is either because they hinder demand/supply by acting as an obstacle or hindrance to customers or public agencies in providing integrated e-Government services via a single access point. Enyon and Dutton (2007) agree by describing barriers to signify factors that impede or cause disincentives for government to come up with new initiatives or to improve on existing e-Government applications. From the review of the barriers affecting integrated e-Government in section 2.5.2, the author classifies and states the different dimensions of barriers perceived in the implementation process as follows:

(i) Political Barriers

- Lack of leadership support and political will.
- Lack of purpose, objectives and visions from the political leaders.
- Interest on short term returns.

- Lack of accountability and transparency from government administration.
- Inadequate legislative support.
- High level bureaucracy (Kunstelj and Vintar, 2009; Schwester 2009; World Bank and InfoDev 2012; Quadri, 2012).

(ii) Financial Barriers

- Severe funding and budgetary defects.
- Difficulty in controlling the financial resources from the federal government.
- Lack of financial resources and public-private-partnership.
- High installation, operation and upkeep cost.
- High cost of ICT professionals and consultancies' services (Fatile, 2012; Nkwe, 2012 Nkohwo and Islam, 2013; Ashaye, 2014).

(iii) Technological Barriers

- Lack of dependable networks and communication.
- Lack of ICT infrastructure and compatible integrated Information Systems (IS).
- Inadequate infrastructure such as the lack of steady power supply.
- Lack of inter-operability or common standards for data sharing.
- Reliance on foreign technical know-how.
- Lack of collaboration between government agencies and private organisations (Dode, 2007; Kunstelj & Vintar, 2009; Azeez et al., 2012; Fatile, 2012).

(iv) Organisational Barriers

- Disintegration and poor relationships among the departmental agencies.
- Leadership failure, lack of top management support and poor co-ordination.
- Deficient implementation guidelines.
- Resistance to change and absenteeism of employees (Ebrahim & Irani, 2005; Enyon & Dutton, 2007; Hu et al., 2009; Ellis 2015).

(v) Cultural Barriers

- Cultural differences in the society and inactive citizen participation.
- Digital divide and e-Literacy.
- Multilingual or multicultural issues (Chen & Dimitrova, 2006; Quadri, 2012; Azeez et al., 2012; Omari, 2013).

(vi) Security and Privacy Barriers

- Lack of trust and confidence of citizens in online transaction services.
- Threats from hackers, crackers and viruses.
- Lack of security, policies and private law.
- Insufficient security programmes and privacy of personal data.
- Illegal access to internal and external information and systems.
- Lack of security risks knowledge (Almarabeh & AbuAli, 2010; Al-Rashidi, 2012).

(vii) Policy and Legislation Barriers

- Non-availability of suitable laws and regulation.
- Lack of government ICT regulatory policy.
- Lack of legal framework guiding e-Documents and e-Transactions (Kunstelj & Vintar, 2009; Quadri, 2012; Omari, 2013)

3.4.3 Perceived Risks

Perceived risks are the threats that are likely to emanate after the implementation of integrated e-Government. A good number of researchers have demonstrated that regardless of the enormous benefits that can be obtained from an integrated and knowledge sharing system there are also many risks that are associated with its implementation (Whitmore and Choi, 2010; Ashaye 2014). The author classifies the risks that are likely to emanate from an integrated e-Government implementation from the review of various literatures in section 2.5.3 of chapter two, and presents them as a taxonomy of the risks of integrated e-Government implementation in table 3.2.

Table 3.2: Taxonomy of the Risks of Integrated E-Government Implementation

| Risks | Descriptions | References |
|---------------------------|---|---|
| (i) Financial | <ul style="list-style-type: none"> • Lack or limitation of fund. • Lack of financial sustainability. | Liu and Zhou, (2010); Abdalla and Fan, (2012). |
| (ii) Technological | <ul style="list-style-type: none"> • Fear that the new technology will fail. • Service disintegration. • Accessibility to information by other related agencies. • Dependence on foreign ICT equipment. • Reliance on foreign technical expertise. | Matavire et al., (2010); Abdallah and Fan, (2012). |
| (iii) Organisational | <ul style="list-style-type: none"> • Unlawful use and misinterpretation of the service. • Increase in unemployment. • Reduction in manpower. • Leadership failure. • Rise in criticisms by customers and other agencies. | Ghapanchi and Albadvi, (2008). |
| (iv) Security and Privacy | <ul style="list-style-type: none"> • Cyber-crime such as hacking, cracking and identity theft. • Threat from logic bombs, trojans, worms and other forms of viruses. | Nijaz and Moon, (2009); Kessler, Hettich, Parsons, Richardson and Triana, (2012). |
| (v) Process | <ul style="list-style-type: none"> • Poor quality of service as a result of mismanaged process. • Loss of full control of information. | Bhatnagar, (2004); Ndou, (2004). |

3.5 Major Stakeholders in Integrated E-Government Implementation

As earlier described in chapter two the term ‘stakeholders’ refers to groups of people or organisations that are enthusiastically involved or interested in a project, or whose work or life will be influenced by the project in one way or the other. After a thoughtful review and analysis of the literature presented in section 2.6 of chapter two, the researcher identifies three major stakeholders who influence the implementation of an integrated e-Government process. The stakeholders are the government, companies (private sector) and the customers (public).

These major stakeholders are in charge of the successful implementation of integrated e-Government in the HUDA by working together meticulously. Although the roles and responsibilities of each of the stakeholders should be clearly defined so as to reduce confusion and result in greater success. In a similar manner, the proposed framework consists of the components that identifies the major integrated e-Government stakeholders and their key activities at each phase of the implementation process, from the beginning of the implementation (pre) to the end.

Hence, the researcher adopts some elements from the three-quarter moon model postulated by Hamed (2009). This serves as the third part of the proposed framework where the major stakeholders in the implementation process for the HUDA are classified into three groups namely, government, the private sector (companies), and customers (public) as specified in section 2.6.

The framework is tested and verified within the context of integrated e-Government in the HUDA. Additionally, the proposed conceptual framework will be revised depending on the findings from the research and the inclination to find any supplementary features and other major activities. Figure 3.3 shows the adapted three-quarter moon model in the implementation process. Firstly, the government stakeholders which consist of the government officials in the Lagos State Ministry of Physical Planning (specifically those in the Lagos State Physical Planning Permit Authority (LASPPPA), the Lagos State Building Control Agency (LABSCA) and the Lagos State Urban Renewal Authority (LASURA); the Lagos State Surveyor General Office (LSSGO) and the Lagos State Inland Revenue (LIRS).

After a review of various literature on the roles and responsibilities of government stakeholders in section 2.6, the researcher states their responsibilities at the end of this section. Secondly, the private sector stakeholders are the various companies that interact with the government. They can either act as a service provider to the government or as customers and at times concurrently. The third stakeholder is the public (customers), and the reason for considering the customers (public) as a stakeholder is that they constitute the ultimate end

user of services and goods provided by the integrated e-Government system. Other stakeholders such as the government and private organisations only help to develop and enhance the qualities of services provided by integrated e-Government implementation.

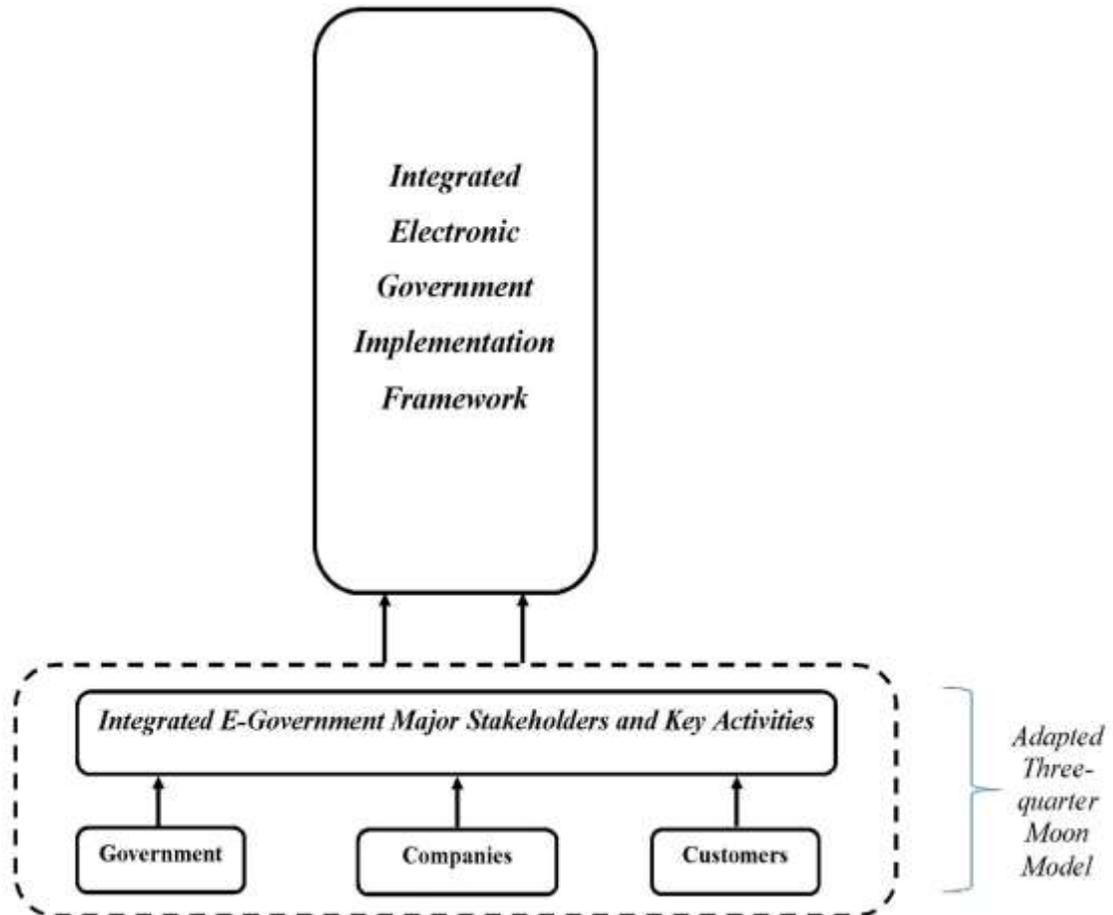


Figure 3.3: Major Stakeholders in Integrated e-Government Implementation
 (Adapted from Three-Quarter Moon Model, Hamed, 2009)

At the end of this section the responsibilities of all the stakeholders are stated, even though they may not necessarily be exhaustive. However, additional responsibilities and factors of government, the private sector and public stakeholders that mostly influence integrated e-Government development at various phases of implementation process are mapped out and presented in table 3.3 (section 3.7).

3.5.1 Responsibilities of Government Stakeholders

- (i) To acquire a clear vision and lead the entire integrated e-Government project.
- (ii) To fund, support, manage and guide the integrated e-Government project at all stages.
- (iii) To assist other departments in re-engineering their business processes.
- (iv) To design and implement the integrated e-Government system.
- (v) To educate the public stakeholders.
- (vi) To define the roles and duties of all the governmental stakeholders participating in the implementation across all the agencies (Chen, 2010; Rowley, 2011; Jain & Kesar, 2011; Chourabi & Mellouli, 2011; Al-Rashidi, 2012).

3.5.2 Responsibilities of Private Sector Stakeholders (Companies)

- (i) To accommodate a payment system so as to reduce corruption.
- (ii) To secure online transactions.
- (iii) For regular updating of the integrated e-Government system (Evaristo & Kim, 2005; Obeidat & Abu-Shanab, 2010; Rose & Grant, 2010).

3.5.3 Responsibilities of Public Stakeholders (Customers)

- (i) To use the integrated e-Government.
- (ii) To access government information and records.
- (iii) To make payments and file suggestions or complaints.
- (iv) To judge the quality of services as well as the interaction derived by interacting with or using integrated online services (Evaristo & Kim, 2005; Al-Rashidi, 2012).

3.6 Integrated E-Government Implementation Process

The review of literature in section 2.7 shows the different e-Government project implementation processes by different researchers. For example, Al-Rashidi (2012) describes the three-phase e-Government implementation process which is the pre-implementation (design) phase, implementation (development) phase and post-implementation or deployment phase. Heeks (2006) elaborates the five-phase implementation process which is,

project assessments, analysis of the current realities, system design, system development, implementation and beyond.

The spiral method is another system implementation process developed by Boehm in the 1980s, while the four-phase implementation process which has been deemed not to be relevant in today's development process was defined by the Auditing e-Government Report (2010). This study adopts the three-phase e-Government implementation process described by Al-Rashidi (2012) which is a contemporary implementation procedure. Additionally, it will allow the presentation of best practice control that would help the decision makers as well as the implementers of changes during their deliberation on the implementation procedures in the public agency organisations (Al-Rashidi, 2012).

The three-phase implementation process consists of three phases namely, the pre-implementation phase, implementation and post-implementation phases. It ought to be noted that the three-phase implementation process adopted in this investigation helps to identify the various stages involved in implementing the project for best practice procedure, and is not part of the proposed model.

This three-phase implementation process is less complex and helps the researcher to have a profound comprehension of the implementation procedure. Similarly, each phase of the development process has its own important factors as discussed in the proceeding section which fits into this study. It also allows the researcher to identify the key responsibilities of each stakeholder at each phase of the implementation process.

3.7 Mapping of Integrated E-Government Implementation Major Stakeholders Activities

From the review of literature, three main phases of the implementation process for integrated e-Government were identified. The pre-implementation phase (initiation phase) is the starting point where government clearly defines its vision and goals. It is additionally the most important stage because all other phases rely on the lucidity and practicality integrated in the pre-implementation phase. The implementation phase is the second stage of the development process which commences instantly after concluding the first phase. It is another essential phase where the outcome of the implementation process will be decided by the resource personnel, financial resources and change management matters. Change management matters according to Ashaye (2014) are important as they have to do with the integrated e-Government approaches, requirements, as well as resistance to change.

The post-implementation phase is the final point which commences immediately after deploying the integrated e-Government system. Though, some refers to it as the operation and monitoring phase. The term operation as used in this context connotes dependable day-to-day processes, while monitoring signifies the optimisation of the integrated services. The researcher tries to map and present the integrated e-Government features or factors and the major stakeholders responsible for them at every phase of the development process in table 3.3.

Table 3.3: Mapping of Integrated e-Government Major Stakeholders and their Main Activities

| Stakeholders | Pre-Implementation Stage | Implementation Stage | Post-Implementation Stage |
|----------------------------------|--|--|--|
| (i) Government | <ul style="list-style-type: none"> • ICT infrastructure. • Legislation and regulations. • Payment systems. • E-Government strategy. • Reduced cost of software and hardware. • Removal of foreign investments barriers. • Reduced taxation. • Establishment of an integrated e-Government department • Values, culture and religion. • Education and staff training. | <ul style="list-style-type: none"> • Introduction of local languages on the web sites. • Use of credit cards for payments • Secured transactions. • Change in business culture. • Education and training. • Security. • Corruption. • New strategies for business and government. • Values, culture and religion. | <ul style="list-style-type: none"> • Security • Monitoring and updating. • Customers trust and satisfaction. • Education and training. • Values, culture and religion. |
| (ii) Private Sectors (Companies) | <ul style="list-style-type: none"> • Legislation and regulations. • Education and staff training. • Reduced cost of software and hardware • Values, culture and religion. | <ul style="list-style-type: none"> • Introduction of local languages on the web sites. • Secured transaction. • New strategies for businesses and government. • Change in business culture. • Education and training. • Values, culture and religion. • Security. • Corruption. | <ul style="list-style-type: none"> • Customer trust and satisfaction. • Tradition, culture and values. • Monitoring and updating. • Security. • Education and training. |
| (iii) Customers (Public) | <ul style="list-style-type: none"> • Values, culture and religion. | <ul style="list-style-type: none"> • Values, culture and religion. | <ul style="list-style-type: none"> • Education and training. • Values, culture and religion. |

3.7.1 Activities in Pre-Implementation (Design) Phase

The pre-implementation phase as earlier described in section 2.7.2 is the first stage in integrated e-Government implementation which commences with government and its agencies sending a ‘Request for Proposal’ to the ICT section within the same agency. The

government as a stakeholder is responsible for most of the factors under this phase. The identified factors influencing this stage of implementation are discussed as follows:

(i) ICT Infrastructure

The main concern before the implementation of e-Government system is a capable and dependable ICT infrastructure (Gil-Garcia, Soon & Janssen, 2009). The authors further state that the ICT infrastructure is particularly the responsibility of the government stakeholder to ensure its readiness for integrated e-Government development before the implementation stage. ICT infrastructure includes software, hardware and all the procedures required for implementing ICT projects. ICT infrastructure also acts as the backbone of an integrated e-Government that must be readily available once the development is about to commence. Therefore, there is a need to build an infrastructure that will provide the customers (businesses and citizens) with Internet connection and telephone lines (Al-Rashidi, 2012). Digital technology can also be used for providing wireless technology especially for the rural communities.

(ii) Legislation and Regulations

The use of ICT innovations in government may suffer policy or legal barriers. As a result, legislature should take anticipatory measures to ensure that policies are formulated to support integrated e-Government implementation, while existing laws need to be updated to recognise electronic transactions and documents (Sahli, Mellouli & Jabeur, 2009). Regulations on the other hand should manage and control the manner in which electronic operations and transactions are conducted within the government agencies. This factor which influences the development process at the pre-implementation phase does not only lie with the government but with the private sector (both local and international companies). The private companies also play a role in dealing with some legal matters like how to create policies that will guide databases and the preparation of contract agreement (Al-Rashidi, 2012).

(iii) Payment Systems

This is a substantive section of the infrastructure that must be put in place and stabilised during the pre-implementation stage. It is the responsibility of government to make payment system available to its customers as this will encourage transparency throughout the process of implementation (Ashaye, 2014).

(iv) E-Government Strategy

It is the sole responsibility of the government stakeholder to set-up plans and create the awareness of the integrated e-Government project to all the government employees as well as its customers. An integrated e-Government strategy requires a well-defined objective and clear route to accomplish it. According to Al-Rashidi (2012), the e-Government strategy is among the most vital elements that lead to an effective integrated e-Government implementation. Although, setting up an integrated e-Government strategy may not be an easy task and it is very much needed at the pre-implementation phase.

(v) Reduced Cost of Software and Hardware

It is the responsibility of both the government and the private sector stakeholders to provide hardware and software at a reduced cost to the public stakeholders (customers) during the pre-implementation phase. This will allow the citizens as well as businesses to buy and be familiar with the use of connection devices (e.g. PDA, PC, digital TV and internet kiosk). In spite of the fact that software and hardware costs have reduced drastically in the developed world, it is still not affordable for a multitude of people in the developing nations (Hamed et al., 2008). Consequently, government and private sectors should find ways through which hardware and software can be made available at a reduced cost.

(vi) Removal of Foreign Investment Barriers

The implementation of an integrated e-Government will apparently create more new strategies and opportunities to do business. This will enable many international companies to have resellers, representatives, branches as well as after sales support for their customers. It will also help to develop the economy of Lagos State and that of the country. Hence,

government at the pre-implementation phase should ensure that there are no obstacles to importation and exportation from the country (Nigeria).

(vii) Reduced Taxation

It is the sole responsibility of government to reduce taxes on exported and imported products as well as services. This usually happens during the pre-implementation stage. Besides, reduced taxation encourages integrated e-Government customers, solves the problem of double taxation on imported ICT equipment, enhances business opportunities and hence reduces unemployment (Ashaye, 2014). All these takes place during the pre-implementation stage.

(viii) Establishment of an Integrated E-Government Department

Another salient and influencing factor at the initial stage of development is creating an integrated e-Government department and responsible committee members. It is the responsibility of the government stakeholder to create a department and committee that will be representatives of different departments in the Lagos State Government Housing and Urban Development Agencies. These departments or committees will work diligently with the government to make the project a huge success.

(ix) Values, Culture and Religion

These are critical variables that impact the three phases of the integrated e-Government implementation process. The state government should ensure that integrated e-Government does not conflict with the nation's values and cultures. The government and private sector stakeholders should be cautious not to contest the culture as well as the religion of the customers of Lagos State, Nigeria.

(x) Education and Staff Training

Education and training of staff can be delivered by the private companies (local or technical foreign partners). Education can also be achieved by sending staff for overseas training, especially to the nations that are technologically advanced (Al-Rashidi, 2012). In addition,

research and development (R&D) on integrated e-Government and relevant matters should be carried out at the pre-implementation and post implementation phase. This helps the state and country at large to find new technology and better ways of sustaining the development process.

3.7.2 Activities in the Implementation (Development) Phase

This is the second stage of the implementation process. It is an important stage where the technological departments in the government agencies are mostly responsible for the activities taking place in the stage. The identified factors influencing this phase are discussed as follows:

(i) Introduction of Local Languages on the Web Sites

A lot of customers in Lagos State, Nigeria do not speak English and still take it as their second language. This would reduce the participation of customers in the state which may eventually result in poor adoption of the system. However, the introduction of local languages on the web site will create self-confidence and encourage the citizens to make optimum use of the internet. This will also allow the citizens to appreciate that their traditions, culture and languages are secured and not negatively influenced.

(ii) Use of Credit Cards for Payments

This is another salient factor that influences the implementation phase. It is the responsibility of the government stakeholder, who at the same time is the service provider, to enable payment for development permits over the internet. This would help to reduce local income risk and corrupt practices to both the local providers and the state government.

(iii) Secured Transactions

Enabling secure transactions is a major problem confronting integrated e-Government. Many of the customers do not have confidence that their personal information available online is safe. Thus, there is a necessity for the government, the private sector and other stakeholders

to work very hard to secure online transactions by offering a secure platform and convincing the citizens to have trust in them.

(iv) Change in Business Culture

Integrated e-Government has organisational characteristics such as computer skills and quick response to customer enquiries and e-mails. This may alter government and private business culture.

(v) Education and Training

It is the responsibility of the government, the private sector and other stakeholders to develop ideas and train the personnel on the use of technology, and to encourage research and development in order to be informed and up to date. In line with this, Dada (2006) suggests that there is a need to deploy technology with the co-operation of the local staff during the implementation process, so as to improve the awareness of the project.

(vi) Security

As earlier discussed under the pre-implementation stage, security is a big treat to integrated e-Government and the Internet. Therefore, government and the private sectors should work together to subdue security threats emanating as a result of integrated e-Government in Lagos State and in Nigeria.

(vii) New Strategies for Business and Government

Integrated e-Government offers new ways of delivering public services to the citizens. Thus, the government and private sectors should assist in designing integrated e-Government in such a way that it will work well with their traditional activities.

(viii) Corruption

The term corruption can be described as all forms of corrupt practices in the work environment. Corruption is a factor that may come up during the implementation phase and if this happens it will slow down the pace of developing the integrated e-Government process.

It is broadly recognised that most of the governments across the globe are affected by some form of corrupt practices (Dreher, Kotsogiannis & McCorriston, 2007). Hence, public agencies should fight against this menace especially at this stage to ensure a successful implementation process.

3.7.3 Activities in the Post-Implementation (Deployment) Phase

This is the concluding phase of the integrated e-Government implementation process. As soon as integrated e-Government has been fully implemented, all the stakeholders that is, the government, private sectors and the public need to focus on problems that may arise after the implementation process. There is a need to carefully check and monitor these factors which are described as follows:

(i) Security

As earlier mentioned in section 3.7.2, security is usually a very big challenge to integrated e-Government and the Internet. Consequently, the Lagos State government and the private sector should work diligently together so as to overcome the menace to security arising as a result of the use of integrated e-Government in Lagos State, Nigeria.

(ii) Monitoring and Updating

This is the responsibility of government and private sector actors. The monitoring and updating activities differ from one stakeholder to another. For instance, it is the responsibility of government to monitor the use of integrated e-Government, Internet and other activities, and generate their statistical data. This data enables the researchers and private sector to restructure and redesign their business operations. The data also facilitate the government to bring up-to-date their infrastructure and re-strategise based on the new challenges. The private sectors on the other hand should also monitor their business operations, customers visiting the web site, their interests as well as new technologies. This will enable the private sector to have updated websites with the latest information and know-how to use their services.

(iii) Customers' Trust and Satisfaction

The government, as well as the private sector should endeavour to build their customers trust in the services they render to the public and to satisfy them. This will help to promote integrated e-Government services to other people, which will eventually culminate in more participation in electronic activities.

(iv) Education and Training

The Lagos State government and the private sector should work together to come up with ideas on how to train employees on the use of technology, and encourage research and development (R&D) in order to be up to date.

(v) Values, Culture and Religion

Once integrated e-Government is implemented, the cultural values over the years will become affected by the new system in place. So, there is a need for integrated the e-Government Department to closely monitor cultural changes, and address the changes required by the management and the strategies to align with the new culture.

3.8 The Proposed Conceptual Framework

There are obvious necessities for developing a conceptual framework, among which is to identify the integrated e-Government implementation factors. These are due to gaps that have been identified in the reviewed literature described in chapter two. It has been established that there is currently no framework or theory that provides a holistic perspective of the combinations of factors and the perceptions influencing the integrated e-Government implementation process that is specific to the Nigerian context. Therefore, the researcher adopts the TOE framework (DePietro et al., 1990), driver-barriers model (Hamed et al., 2008) and three-quarter moon model (Hamed, 2009) for the development of an integrated e-Government framework.

The planned conceptual framework shown in figure 3.4 consists of three components namely:

- *Technology-Organisation-Environment Model*: This model identifies the integrated e-Government implementation factors (technological, organisational and environmental).
- *Modified Drivers-Barriers Model*: It identifies the three perceptions of the implementation process namely- perceived benefits, perceived barriers and perceived risks.
- *Adapted Three-Quarter Moon Model*: It identifies the major stakeholders in implementation process as well as their core responsibilities.

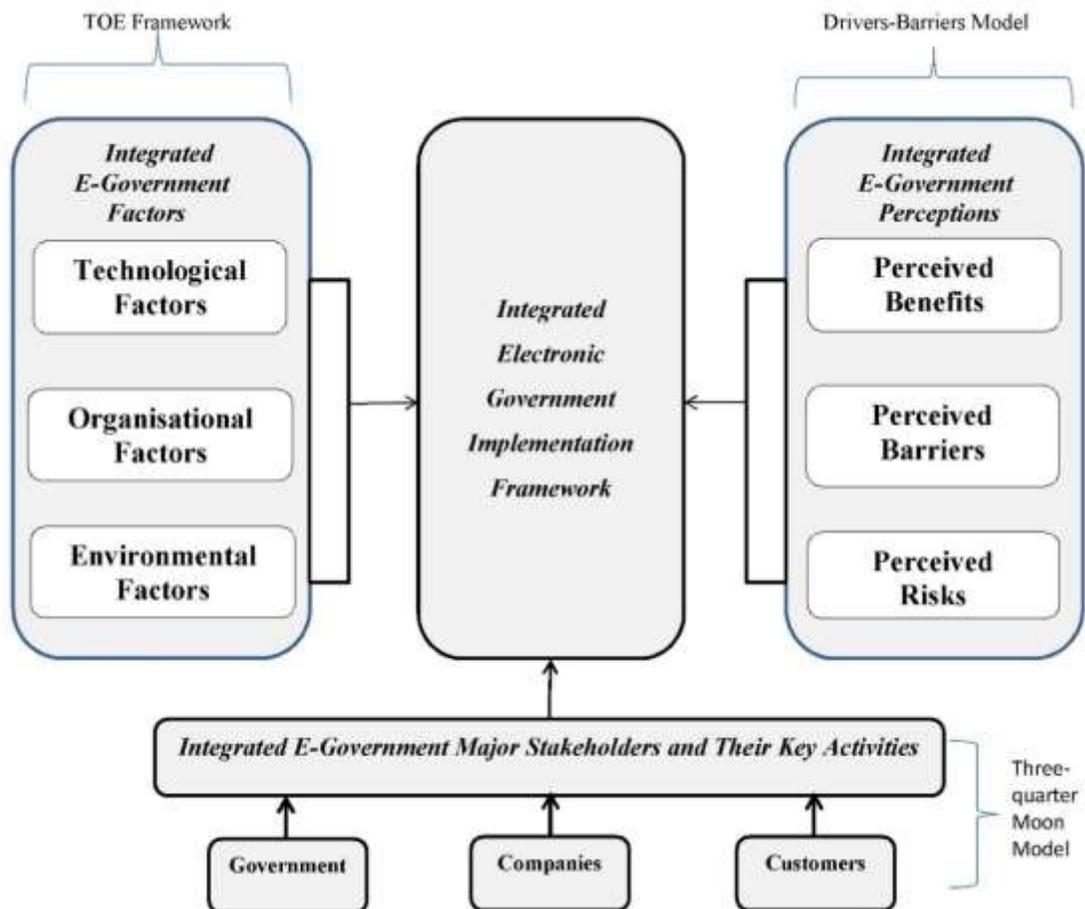


Figure 3.4: Proposed Integrated e-Government Framework for the Lagos State HUDA

The proposed framework is established on the normative features of a technology-organisation-environment which allows easy incorporation of other benefiting factors. The TOE framework is a theoretically based Information Systems theory that has been tested empirically and found useful to be a good starting point to appreciate the implementation of technological innovations.

While the TOE framework focuses on technology adoption, e-Government implementation does not depend solely on technology. Hence, the implementation of integrated e-Government requires additional issues such as organisational and environment factors to be considered. Therefore, it becomes imperative to draw some elements from other models in order to accommodate the context of the public sector of HUDA in Nigeria. It was found that the drivers and barriers, and the three-quarter moon models were suitable for adaption in this study.

The proposed framework adapts the drivers–barrier model as the second part of the model. The addition of the modified drivers-barriers model will help to identify potential benefits, potential barriers as well as potential risks influencing the implementation process in the Housing and Urban Development Agencies. Therefore, the model becomes relevant in this framework, and has been applied effectively by many researchers such as e-Commerce adoption in Libya (Hamed, 2009) and e-Government implementations in underdeveloped nations (Ashaye, 2014).

The researcher further adapts some elements of the three–quarter moon model postulated by Hamed (2009) to constitute the third part of the proposed model in order to complement some of the deficient factors required for a successful implementation. The reason for adopting the three-quarter moon model is that it helps to recognise the main stakeholders and their core activities at each phase of the implementation process; and has been proven to be reliable in e-Services and e-Government projects with changing factors in different nations. The planned framework classifies the major stakeholders in integrated e-Government implementation in the Lagos State Housing and Urban Development Agencies into three

groups, namely, government, private sector (companies) and customers (public) as earlier reviewed in section 2.6.

The proposed framework combines the various factors in the preceding research work impacting on the implementation of ICT innovations (figure 3.4). The researcher therefore integrates the factors analysed in the normative literature after critically revamping the factors and adapting them to the integrated e-Government environment. This results in an integrated framework development for e-Government implementation process in the Housing and Urban Development Agencies in Lagos State, Nigeria. Furthermore, as identified in the reviewed literature the three phases of the implementation process (pre-implementation phase, implementation and post-implementation phase) are incorporated in the framework.

The intended integrated e-Government framework presents two novel level contributions. Firstly, the concepts of the planned framework can be used as principles or guidelines to provide direction for the accomplishment of the e-Government project in the government sectors. Secondly, the framework incorporates different dimensions that influence the implementation of ICT initiatives which the researcher adapts to culminate in an integrated model for the implementation of e-Government innovations.

The developed framework identifies the implementation factors influencing integrated e-Government in the HUDA throughout the implementation process starting from the pre-implementation phase to the post-implementation phase. The framework also helps to establish the major stakeholders and their key responsibilities required at each stage of the development to ensure a successful implementation process. Notwithstanding, the framework may be reviewed in light of the outcomes of the investigation and presented in chapter seven.

3.9 Strategy to Validate the Conceptual Framework

The proposed integrated e-Government framework presented in figure 3.4 incorporates three disparate models which depicts a detailed framework for implementing integrated e-Government in HUDA in Nigeria. It is evident that government being the foremost stakeholder particularly in the area of ICT infrastructure, funding, legislation and regulations, people and process plays an important role in ensuring that the process of integrated e-Government implementation is successful. Therefore, the next stage of the study is to test and validate the proposed model in the actual case study which is the Lagos State HUDA. The details of the testing using SEM and validation are elaborated in chapters six and seven.

The three parts of the model which require testing and validation are the key implementation factors (technological, organisational and environmental), the implementation perceptions (perceived benefits, perceived barriers and perceived risks), major stakeholders (government, companies and customers) and their key activities. This framework describes the significance of the key factors influencing an e-Government initiative, which is linked to integrated e-Government implementation in the Lagos State government HUDA with respect to benefits, barriers and risks factors, and the activities of the major stakeholders.

The factors and the perceptions which constitute parts of the implementation framework can be linked with the three phase development process which would help to determine the responsibilities of the major stakeholders at each stage of the implementation process right from the beginning to the end. Though, the implementation process adopted for the study is a contemporary method classified as pre-implementation, implementation and post-implementation phase.

The next stride is the grouping of the key implementation factors and perceptions together with the three-phase development process. It was further expected that the major stakeholders would be identified as well as their main activities which is linked to the implementation process. For example, stakeholder number one (government) may have the major

responsibility to map out strategies for an effective implementation process which may be necessary at each phase of the development. This will provide opportunities for the implementers of change, as well as the decision-makers, to discover who the core major stakeholders are, and to have the capacity to handle the development procedures successfully at all stages of the development.

Findings was used to test and validate the framework statistically, as this enabled the investigator to determine whether all the aspects of the proposed model were viable. The constraints such as cost, time, lessons learned as well as other limitations encountered during this process will be deliberated under limitations to the study in the concluding chapter.

3.10 Chapter Summary

A conceptual framework for integrated e-Government implementation, which can be adopted in the HUDA was proposed. The proposed framework was based on the three models discussed. Subsequently, the chapter examined the adoption of theories and models in e-Government implementation by analysing a TOE model to propose a suitable framework that can constitute an important part of the proposed model to form an integrated e-Government framework. Notwithstanding, the TOE framework did not provide sufficient factors for integrated e-Government implementation, so it became vital to consider other factors influencing implementation and support the development process at each phase.

So, the researcher adopted the combination of the TOE model with a modified drivers-barriers model so as to hypothesise the proposed framework for integrated e-Government. Regardless of this, the combined models remained insufficient for the implementation process, as this combination is limited in that the role of the stakeholders are not considered. Hence, the three-quarter moon model is a necessity for addition to the framework as it identifies the major stakeholders and their key activities in the development process and in this way complements the framework.

The researcher therefore integrated the TOE framework with the drivers-barriers and three-quarter moon models, and modified them within the integrated e-Government implementation framework. The researcher also mapped out the integrated e-Government implementation factors, and major stakeholders with their core responsibilities at each phase of the execution process. Hence, a conceptual framework for the HUDA was proposed, and an architecture that would assist the researcher was developed. The strategy for validating the developed framework was also explained.

Next is chapter four which provides the rationale for adopting a suitable research methodology that would address the research problems.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

The preceding chapter presented the conceptual framework for integrated e-Government implementation for the Lagos State Housing and Urban Development Agencies (HUDAs). It is therefore important to adequately collect the empirical data that would be used to statistically test and validate the framework in order to accomplish the aim of the study. Thus, this chapter presents a meticulous description of the research methodology process that was employed throughout the empirical investigation of this research work.

Section 4.2 briefly states the research process that will be applied whilst section 4.3 presents an overview of a research philosophy which includes positivism, interpretivism and pragmatism. Section 4.4 explains the approaches used in the research methodology and justifies the rationale for adopting a mixed method research approach in the study. Section 4.5 reflects on the different research strategies in the research methodology and clarifies the reason for choosing a multiple-case study approach. Section 4.6 describes the research design, which has to do with the logical progression of the process involved in the study from the initial research questions to its completion.

Section 4.7 discusses the various research methodology techniques employed in this study, while section 4.8 addresses the data analysis techniques which form the last part of the research design process. The researcher expounds on the data quality control in section 4.9 which includes validity, reliability and triangulation measures for judging the quality of data gathering instruments. Section 4.10 discusses the significance of ethical clearance in this research work. The penultimate section explains how the research data collected for the study would be managed and stored. The last section provides the summary of the chapter.

4.2 Overview of Research Methodology

The term research methodology as described by the Industrial Research Institute (2010) is one of the means by which results can be obtained from a particular issue or a stated problem, also referred to as the research problem. Redman and Mory (2009) describe research as a systematic exertion through which one can gain new knowledge.

So, research methodology is not just the process of data gathering as is often presumed, instead it is about proffering solutions to the research questions and how the study work will be carried out. It is therefore the obligation of a researcher to use distinct criteria to search or proffer solutions to a given research problem. The main focus of this methodology is to pinpoint the matters relating to integrated e-Government implementation, how the research aim, objectives and the research questions guiding the empirical investigation will be met. Based on the nature of the present study, the research process is presented as follows: (i) Research philosophy, (ii) Research approach, (iii) Research strategy, (iv) Data collection techniques, (v) Data analysis, (vi) Data quality control, and (vii) Case study protocol.

4.3 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 Flick (2011) helps to justify how the study will be embarked upon. 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 (Easter-by-Smith, Thorpe & Lowe, 2002). Besides, all research, either

qualitative or quantitative, banks on some underlying assumptions and characteristics on what really constitutes a 'valid' research or which methodology is most proper (Myers & Avison, 2002; Ebrahim, 2005).

There are various philosophical assumptions or alternative knowledge claims used in research methodology (Myers, 2009; Lincoln & Cuba, 2011). These philosophical assumptions include positivism, interpretivism, realism, pragmatism, subjectivism, and objectivism (Saunders & Thornhill, 2009). The commonest assumptions of all are the 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). This study discusses the three commonest assumptions which are positivism and interpretivism, and pragmatism which are usually applied in a mixed method approach in the subsections.

4.3.1 Positivism

Positivism is a type of research paradigm that identifies reality to be assessed objectively and which can be defined by calculable properties which do not depend on the investigator (researcher) or his instruments. The positivist research usually tries to test theory basically with an end goal of strengthening the prescient comprehension of an occurrence or a phenomenon. In line with this paradigm, Orlikowski and Baroudi (1991) classify Information Systems research as positivist supposing that there is evidences of formal propositions, hypothesis testing, drawing of inferences on phenomena from the sample of a given population, and quantifiable measures of various variables.

This approach tends to produce a deductive and quantitative measure because it utilises a common result to assign attributes to elucidate instances. Nevertheless, many researchers have argued that reductionism, refutation and repeatability which are the three scientific

techniques influence the instances of positivism (Orlikowski & Baroudi, 1991; Oates, 2006, Saunders et al., 2007).

4.3.2 Interpretivism

Interpretivism, which can also be referred to as a phenomenological research usually attempts to comprehend phenomena by accessing the denotations that individuals or participants designated to them (Orlikowski & Baroudi, 1991). Interpretivism assumes that access to reality either socially constructed or given, is subjective and is simply via social constructions like language, shared meanings and consciousness. This type of paradigm when applied to Information Systems research aims to produce a thorough comprehension of the context of the field, the process by which Information Systems (IS) influence and are also influenced by the context (Walsham, 1993).

According to Kaplan and Maxwell (2005) interpretive studies do not predetermine either dependent or independent variables, but emphasises the entire intricacy of human brainpower creation as the situation occurs. As a result of this, each participant has his or her own subjective perception of reality, and numerous realities are available. Moreover, interpretive research is a philosophical paradigm which began after positivism to shield the shortfalls of the approaches applicable in social science, but merely used in natural science. Interpretive research can likewise be applied directly from the perceptions of the participants involved in a certain occurrence to be acquainted with the process of exploring the phenomena (Kaplan & Maxwell, 2005).

But then, this study tries not only to identify and address the challenges impacting on integrated e-Government implementation in the Housing and Urban Development Agencies in Lagos State, Nigeria, but to also investigate and develop a framework that will guide the successful implementation of the initiative within the context of the case study.

4.3.3 Pragmatism

Pragmatism claims that the greatest determinants of research are the philosophical assumptions adopted as the research questions, which states that it is not impossible to conduct studies within interpretive and positivist stances (Creswell, 2009). However, pragmatism applies practical techniques to engage various methods to gather and interpret data. Pragmatism researchers permit themselves to the exemption of using any of the procedures, techniques and methodologies characteristically connected with qualitative and quantitative research. This philosophical assumption acknowledges that each approach has its own limitations, but the approaches can be complementary.

Pragmatism uses various techniques either concurrently or at different times to collect data. For instance, a pragmatic researcher may commence with a face-to-face interview or focus group and then advance by using the outcomes to design a questionnaire that can be used to measure large scale samples of attitudes with the aim of conducting statistical analysis. Pragmatic approaches are motivated by problems encountered by people and identifies how best to proffer solutions. Howe (1988) claims that quantitative and qualitative techniques are well-suited and further affirms that an effective research paradigm should involve mixed methods. This connotes that the judgment on whether to use quantitative, qualitative or mixed methods depends on the research questions as well as the present phase of the research phenomenon.

Hence, for this research which requires a high level of objectivity, the pragmatic approach which is a mixed method was found to be most suitable (Yvonne Feilzer, 2010). Quantifiable variables and formal propositions based on the respondents' opinions are used. Similarly, the ability to mix different research methodologies has the benefit of facilitating data triangulation- an important aspect of data verification in a mixed methods study. Table 4.1 presents the summary of some basic philosophical assumptions commonly adopted in Information Systems.

Table 4.1: Basic Philosophical Assumptions used in an Information Systems Approach

| Approach | Description | Characteristics | References |
|----------------|--|--|---|
| Positivism | Positivism is a type of research paradigm that undertakes reality to be given objectively and can be described by quantifiable properties which does not depend on the investigator and his instruments. | <ul style="list-style-type: none"> • It is concerned with hypothesis testing, measures quantifiable variables and formal proposition. • Search to test theory. • It tends toward producing quantitative data. • It draws inferences around phenomenon. • Data is detailed and exact. • Location is artificial. | Straub, Boudrea and Gefen, (2004); Straub, Gefen and Boudrea, (2005). |
| Interpretivism | Interpretive research tries to understand phenomenon by accessing the meanings that people or participants designate to them. | <ul style="list-style-type: none"> • It enhances 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. | Orlikowski and Baroudi, (1991); Walsham, (1993). |
| Pragmatism | Pragmatism applies practical techniques to engage various methods to gather and interpret data | <ul style="list-style-type: none"> • It uses various techniques either concurrently or at different time 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. | Creswell, (2009) |

4.4 Research Approach

Research approach is an orderly and systematic technique embarked upon towards data collection and analysis for the purpose of obtaining information from the raw data (Jankowicz, 2005). According to Karokola (2012), an appropriate research approach can be used to achieve knowledge development. There are basically three categories of research approaches namely quantitative, qualitative and mixed method. The choice of approach among the three types of techniques relies on the study's aim and objectives to be accomplished.

4.4.1 Quantitative Approach

This approach as the name implies deals with quantitative data (Flick 2011). May (2011) asserts that quantitative approach is most effectively employed in situations involving a huge number of respondents, and where analysis of data is required quickly. A quantitative approach is widely believed to have developed due to the investigations of natural phenomena and is therefore seen to embrace objective and scientific methods.

Moreover, Johnson and Christensen (2008) discuss that the data generated in a quantitative method is deductive, unequivocal and dependable due to the emphasis laid on the hypothesis testing and theories. Although researchers often employ ordinal quantitative methods for data gathering via questionnaires as it enables the ranking of variables or various factors impacting on the phenomena. (McClure, 2002; Boeije, 2010).

4.4.2 Qualitative Approach

A qualitative research approach is the act of using qualitative data in word form instead of numbers to explain and understand a phenomenon (Myers, 2015). Garson (2001) maintains that a qualitative research approach is designed to strive for an exhaustive understanding of a phenomenon using techniques such as narrative analysis and participant observation. Though a qualitative research technique was basically developed in social sciences to allow researchers to study cultural and social subjects. Examples of qualitative research include, ethnography, action research and case study research, while the sources for data are interviews, participant observation (fieldwork), researchers' impressions and reactions, text and documents (Myers, 2009).

Academics have acknowledged the enthusiasm for using a qualitative approach as opposed to a quantitative approach, with the observation that, the only thing that differentiates humans from their natural environment is the capacity to converse. This research technique also helps the researchers to understand the people, their cultural and social environments where they

live. The data to analyse in a qualitative approach is anecdotal, which is subjective in real sense but not numerical.

4.4.3 Mixed Method Approach

A mixed method 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 (Teddlé & Tashakkori, 2009). The combination of quantitative and qualitative research approaches is referred to as mixed methods (Tashakkori & Teddlé, 2008; Creswell, 2009), multi-strategy (Bryman, 2012) and multi-methods (Brannen, 1992). Two of the justifications for using a mixed methods research approach include the following:

- (i) Mixed method enables corroboration or confirmation of the combined approaches through triangulation
- (ii) Mixed method is used to develop a richer data analysis

Hence, this study adopts a mixed method approach with a specific end purpose of achieving the objectives of the investigation, and to optimally utilise the advantages of both quantitative and qualitative methods.

4.4.4 Rationale for Adopting the Mixed Method Technique

Integrated e-Government is a relatively new phenomenon with limited empirical research readily obtainable for implementation and adoption in government agencies of developing nations in general, and specifically Lagos State Nigeria. Thus, the researcher has relied on the reviewed literature as well as the strengths of both qualitative and quantitative research approaches in order to adopt the most suitable research method. Due to the focus of this research study and nature of data needed, a mixed methods research approach was found to be the most appropriate methodology.

Therefore, the rationale for the selection of a mixed method research approach is summarised as follows:

- The adoption of a mixed method approach would enable the researcher to investigate and have an exhaustive comprehension of the various processes involved in the integrated e-Government implementation (Johnson & Onwuegbuzie, 2004). Thus, enabling the simplification of the implementation process and development of theories.
- A mixed method approach helps people to understand how to perceive a problem on the basis of a holistic picture and developing of a complex structure (qualitative approach), as well as the effects and causes in the relationship (quantitative approach).
- A mixed methods approach was perfectly suitable for combining multiple methods, data sources and theories. It thus prevents intrinsic bias which arises from a single method, single data source and theory (Fidel, 2008).
- The mixed method approach adopted in this study helped to triangulate by seeking convergence across the quantitative and qualitative approaches (Komba, 2013).
- Additionally, this research method was most apt for this study because the implementation of integrated e-Government requires close contact with the citizens and the agencies. This becomes most effective via multiple-methods such as interviews, questionnaires, observation and document analysis (Collins, Onwuegbuzie & Sutton, 2006).

In view of the available facts as stated, the researcher justifies a mixed method research to be the most suitable approach for this study. The qualitative approach was adopted in addressing research questions 1 to 6, most especially question 6 which relates to the roles of the major stakeholders in an integrated e-Government implementation in the HUDA.

The quantitative method was adopted in addressing research questions 1 to 5, which relates to technological, organisational, and environmental, benefits and barriers as factors

impacting the implementation of integrated e-Government in the HUDA. It is the most suitable approach to collect data from numerous people in the Lagos State HUDA considering the fact that a large number of civil servants do not want to sacrifice their time.

Lastly, it allows the positioning of various variables influencing the implementation of integrated e-Government in HUDA. In this way, a quantitative approach was used to triangulate the data gathered through a qualitative strategy, thereby justifying the reasons for adopting a mixed method approach in the investigation. Table 4.2 summarised the techniques used in this research work along with the results.

Table 4.2: Research Methodology Techniques and Results

| Aim and Objectives | Research Methods | Techniques | Activities | Results |
|---|-------------------------|----------------------------|---|----------------------|
| Review of integrated e-Government implementation literature. | Mixed approach | Secondary data | Books Reports Websites Journals | Chapter Two |
| Development of a conceptual framework. | Mixed approach | Secondary data | Books Reports Websites Journals | Chapter Three |
| Investigation of key factors (technological, organisational and environmental), perceptions (benefits, barriers, and risks) influencing integrated e-Government implementation, and the roles of the major stakeholders in the development process. | Mixed Approach | Primary/ Secondary data | Interviews Questionnaires | Chapter Five and Six |
| Development of an implementation plan for integrated e-Government. Development of a model to assist integrated e-Government implementation in the Lagos State Housing and Urban Development Agencies | Mixed approach | Primary/Sec ondary data | Books Reports, Websites Journals Interviews Questionnaires | Chapter Seven |

4.5 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 his/her 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 works and answer the research questions they have designed (Saunders, Lewis & Thornhill, 2007; Bryman 2012).

There are various research strategies. These include experimental research, ethnographic research, historical research, survey research and case study research (Klein and Myers, 1999; Akinade & Owolabi, 2014). This study adopts a case study research and will be discussed accordingly.

4.5.1 Case Study Strategy

This is one of the research strategies used for carrying out an investigation in the field of Information Systems. According to Yin, a case study research is defined as:

“An empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used” (Yin, 2009, p. 18).

Yin (2009) also states that a case study research is the most suitable approach if the questions to be addressed are presented in the form of ‘how’ ‘why’ and ‘what? Besides, a case study strategy uses comprehensive valuation of a unit group or an event to delve into the underlying principles in order to draw generalisations from which key features can be established. This is substantiated by Silverman (2013) who concurs that case study research offers a vision

into the explicit nature of an event and can establish the significance of context as well as culture in the differences between the cases.

In view of the explanation, this study applies case study research which is mainly from a pragmatic approach viewpoint. The reasons for this adoption will be substantiated in the subsection that follows.

4.5.2 Rationale for Choice of Case Study

To select an applicable research strategy for this study, the researcher employed the criteria proposed by Yin (2009) which are founded on research questions being presented in the form of “what”, “why”, and “how”? The study focuses on contemporaneous events in a real-life environment which are public sector agencies in Lagos State, Nigeria, which is a developing nation. More so, a case study research has been identified in an effort to define an association existing in a reality which is commonly a sole organisation or set of organisations.

Case study research is the commonest strategy used in Information Systems study (Yin, 2009) predominantly for developing and testing new theories. Case study research strategies have been used in various academic fields for many years, particularly by social scientists to investigate modern real-life events and for the purpose of providing the foundation for applying new ideas (Dwivedi, Choudrie & Brinkman, 2006).

Based on Yin’s (2009) description of case study, it was determined that case study is the most suitable strategy to adopt in this study, as five public service agencies in Lagos State, Nigeria are involved in the study. This strategy would enable the researcher to obtain a rich knowledge of the different agencies by analysing the roles of the major stakeholders, and consequently develop and validate the conceptual framework, using a series of data gathering strategies in the form of questionnaires and interviews. Other reasons for the choice of case study strategy in this study concur with Yin (2009) which are stated as follows:

- Case study strategy enables the researcher to study integrated e-Government which is a relatively new phenomenon in its natural setting and then develop an appropriate

theory from the knowledge acquired via the observation of the real decision-making practices towards integrated e-Government implementation.

- As earlier mentioned, case study is the most suitable strategy for solving the research questions in the form of ‘what’, ‘why’ and ‘how’.
- Since integrated e-Government implementation is still a new initiative in the public agencies, the application of case study research offers an early exploratory examination of where the variables are as yet unidentified, and for the inquiry into a phenomenon that is not understood or with little previous research. The summary of the research process is presented below.

4.5.3 Characteristics of the Research Process

The features of the research process are stated with their descriptions as follows:

(i) Phenomenon: Public agency organisations have made several attempts to develop an e-Government initiative that will have the capacity to enhance the efficiency and effectiveness of government service delivery, by providing integrated electronic services to its customers (e.g. businesses and citizens). However, a number of these initiatives are still undergoing development with few applications in the developing nations.

(ii) Research Aim: To develop a framework that will allow interactions among the public sector organisations and deliver efficient and effective services and information to the citizens via a single access point. The framework will help to outline the process of implementing integrated e-Government system by identifying the influential factors and the critical phases of action that should guide its successful implementation in the Lagos State HUDA.

(iii) Research Questions: The two main research questions that guides the study are:

- What factors influence the implementation of integrated e-Government services in HUDA?

- How can the identified factors assist to build a holistic integrated e-Government framework for HUDA?

These two questions are broken down into the following sub-questions:

- To what extent do technological factors influence the implementation of an integrated electronic government in the HUDA?
- How do organisational factors influence the implementation of an integrated electronic government in the HUDA?
- To what extent do environmental factors influence the implementation of an integrated electronic government in the HUDA?
- How can the perceived benefits influence the implementation of an integrated electronic government in the HUDA?
- What are the barriers affecting the implementation of an integrated electronic government in the HUDA?
- How can the roles of the major stakeholders influence the implementation of an integrated electronic government in the HUDA?

(iv) *Proposed Framework*: This consists of three parts stated as follows:

- Technology-Organisation-Environment Model
- Modified Drivers-Barriers Model
- Adapted Three-Quarter Moon Model

(v) *Philosophical Assumptions*: Pragmatic research approach.

(vi) *Unit of Analysis*: This refers to the major entity the study is trying to analyse and relates to the primary questions in the research. This include the following:

- Public agency organisations context
- Government ministries, ICT departments and agencies
- Integrated e-Government project team exercises

(vii) Research Objectives: The two main objectives addressing the key issues in the study are:

- To determine the factors that influence the implementation of integrated e-Government services in HUDA.
- To develop a holistic integrated e-Government framework for HUDA.

The sub-objectives of the study are therefore stated as follows:

- To determine the extent to which technological factors will influence the implementation of an integrated electronic government in the HUDA.
- To determine how organisational factors influence the implementation of an integrated electronic government in the HUDA.
- To determine the extent to which environmental factors will influence the implementation of an integrated electronic government in the HUDA.
- To ascertain the influence of perceived benefits from the implementation of an integrated electronic government in the HUDA.
- To identify the barriers affecting the implementation of an integrated electronic government in the HUDA.
- To determine how the roles of the key stakeholders will influence the implementation of an integrated electronic government in the HUDA.

4.5.4 Single/Multiple Case Studies

A case study can either be single (holistic) or multiple (embedded unit of analysis) and the question that often comes up during the selection of a case study technique is whether to conduct the research using single or multiple case studies.

A single case design according to Irani, Ezingard, Grieve and Race (1999) allows the researcher to closely investigate a phenomenon, which enables an elaborate explanation of the primary data, identification and a detailed analysis of the structure. However, there are some limitations associated with the use of single case studies, namely that it limits the generalisation of conclusions, and hence theories or models developed may not be accurate.

A single case study design can also lead to an overstatement of easily available data, and risks making incorrect judgements of a single case (Ebrahim, 2005).

In contrast, multiple case studies are desired, where the driving motivation behind the study is descriptive, building and testing of theories. One of the major benefits of multiple case studies is that it provides a more generalised research conclusion (Al-Shafi, 2009). Eisenhardt (1989) suggests that four to ten cases are required for multiple case studies research, depending on the proposed numbers of important variables.

The empirical research in this study employs five multiple case studies which is within the limits of four to ten studies suggested by Eisenhardt (1989). Irani, Love and Jones (2008), however suggests that an individual researcher should be left to decide on the number of cases to utilise. The decision for choosing five particular case studies is based on the fact that five agencies and parastatals are involved in the issuance of developing permits to the residents or citizens of Lagos State, Nigeria. The selection of five relevant cases for this study will provide adequate information and gain an understanding of the phenomenon, since the investigation requires moving from one agency context to another.

Thus, the researcher selected five government public agencies located in Lagos State, Nigeria as multiple case studies. These agencies are: the Lagos State Physical Planning Permit Authority (LASPPPA), the Lagos State Building Control Agency (LABSCA), the Lagos State Urban Renewal Agency (LASURA), the Lagos State Surveyor General Office (LSSGO) and the Lagos State Internal Revenue Service (LIRS). Within the setting of this research, a multiple case studies approach was adopted to investigate integrated e-Government implementation in the Lagos State Housing and Urban Development Agencies.

4.6 Research Design

This can be described as the logical series of procedures involved in a study from the initial research questions to its completion. Flick (2011) describes it as a framework with considerations that leads to the adoption of a suitable methodology, ways and manners of selecting respondents as well as how data collected will be analysed. Yin (2009) agrees that research design is a reasonable sequence of actions which involves data collection, analysis and interpretation of evidence beginning with the research questions to the conclusion. Moreover, the reason for research design is to provide a detailed plan that will guide and focus the research process. Figure 4.1 depicts the research design for integrated e-Government implementation for the Lagos State HUDA, from the background theory to the novel research contribution. The research design comprises the background theory, the developing phase, the data theory as well as the novel contribution.

The background theory encompasses the problem definition, aim and objectives of the research as well as the review of related literature. Development of theory is the next level where the conceptual framework is developed. The conceptual framework would serve as a lens for the analysis of the research approach. The next research level is the data theory which consists of identification and development of appropriate research methods, analysis and interpretation of data. The data theory and novel contributions briefly discusses the research methodology and data analysis techniques, and contributions of the study based on the findings.

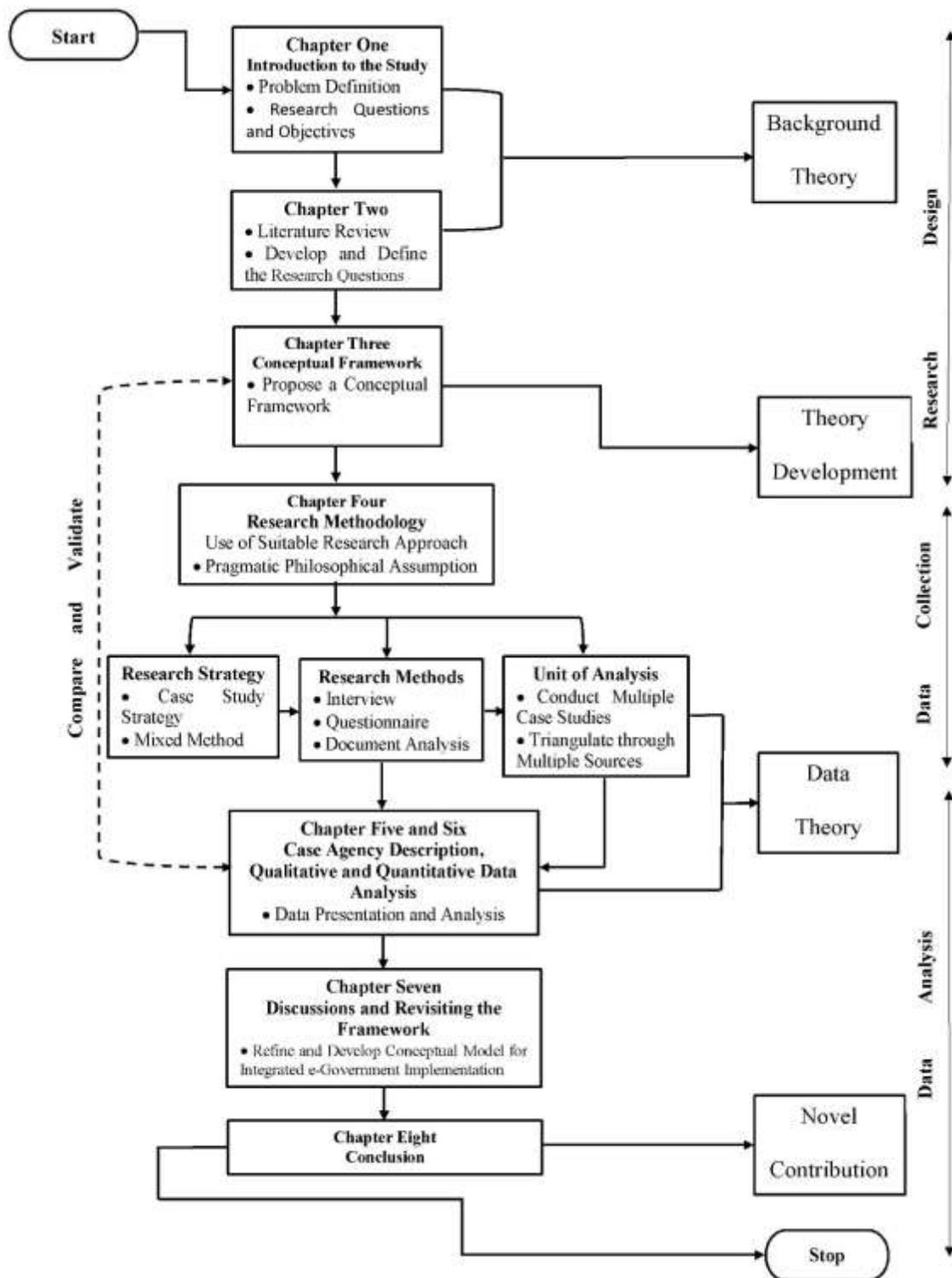


Figure 4.1: Research Design for Integrated e-Government Implementation in the HUDA

4.7 Empirical Research Methodology

The term empirical research methodology refers to the techniques involved in investigating the five selected agencies (Thomas, 2010). This section presents detailed explanations of the selected methodology used in this study. This comprises the study site, data collection techniques, population sampling strategy and sample size.

4.7.1 Study Site

Lagos State, Nigeria was selected as the choice of case study where empirical data would be obtained from five agencies. The reason for considering Lagos State as the case study is because of its position in the strategic and social-political development of Nigeria. Also, Lagos being an urban city, is mostly affected by building development permits required for housing and commercial structure needs, a state perceived to be able to meet the growing population. Moreover, Lagos State is often used by the Federal Government of Nigeria for pilot study tests for any implementation, considering the fact that Lagos is the most populous urban city in Nigeria, and the commercial nerve centre of the nation.

The agencies involved in the case study as earlier identified in the previous chapters are five in number and are reiterated as follows: the Lagos State Physical Planning Permit Authority (LASPPPA), the Lagos State Building Control Agency (LABSCA), the Lagos State Urban Renewal Agency (LASURA), the Lagos State Surveyor General Office (LSSGO) and the Lagos State Inland Revenue Service (LIRS). The decision for choosing five agencies as a case study was premised by the fact that these five particular agencies of the Lagos State government are involved in the issuance of development permits to the citizens of Lagos State. The process of applying for building development permits is thus discussed.

(i) The Process of Applying for Development Permit in Lagos State

The Lagos State HUDA requires that one or more development permits be obtained before commencing construction work. This section describes the general process involved in filing an application to be granted development permits for housing and commercial buildings.

Figure 4.2 shows the current workflow diagram of the Housing and Urban Development Agencies' services as perceived by the researcher. There is a need for the physical planning office or department to interact with four other agencies at the state level in order to deliver its services efficiently. These agencies are LABSCA, LASURA, LIRS and LSSGO. Besides these agencies, citizens need to go to the bank, see their architects and engineers to prepare some of the required documents which they need to submit to any of the relevant agencies earlier mentioned to get clearance certificates. The steps taken in order to apply for building development permits in Lagos State HUDA are shown in the activity diagram (figure 4.2) and are discussed accordingly.

Step 1: Citizens approach the district physical planning office to purchase the application form and request required documents. LASPPA has 22 district planning offices spread throughout the State. Citizens obtain their application forms in the district where their property is situated.

Step 2: The citizens then proceed to the remaining four agencies to get the remaining documents as follows:

- To the Lagos State Survey-General's Office (LSSGO) to get the survey plans which takes about twenty working days.
- To the Lagos State Internal Revenue Service (LIRS) to get the tax clearance certificate.
- To the Lagos State Building Control Agency (LABSCA) to get a clearance certificate on the architectural building, to make arrangements for site inspections, health and safety plans, and notification forms for health and safety commission clearance.
- To the Lagos State Urban Renewal Authority (LASURA) to obtain the layout plans clearance.

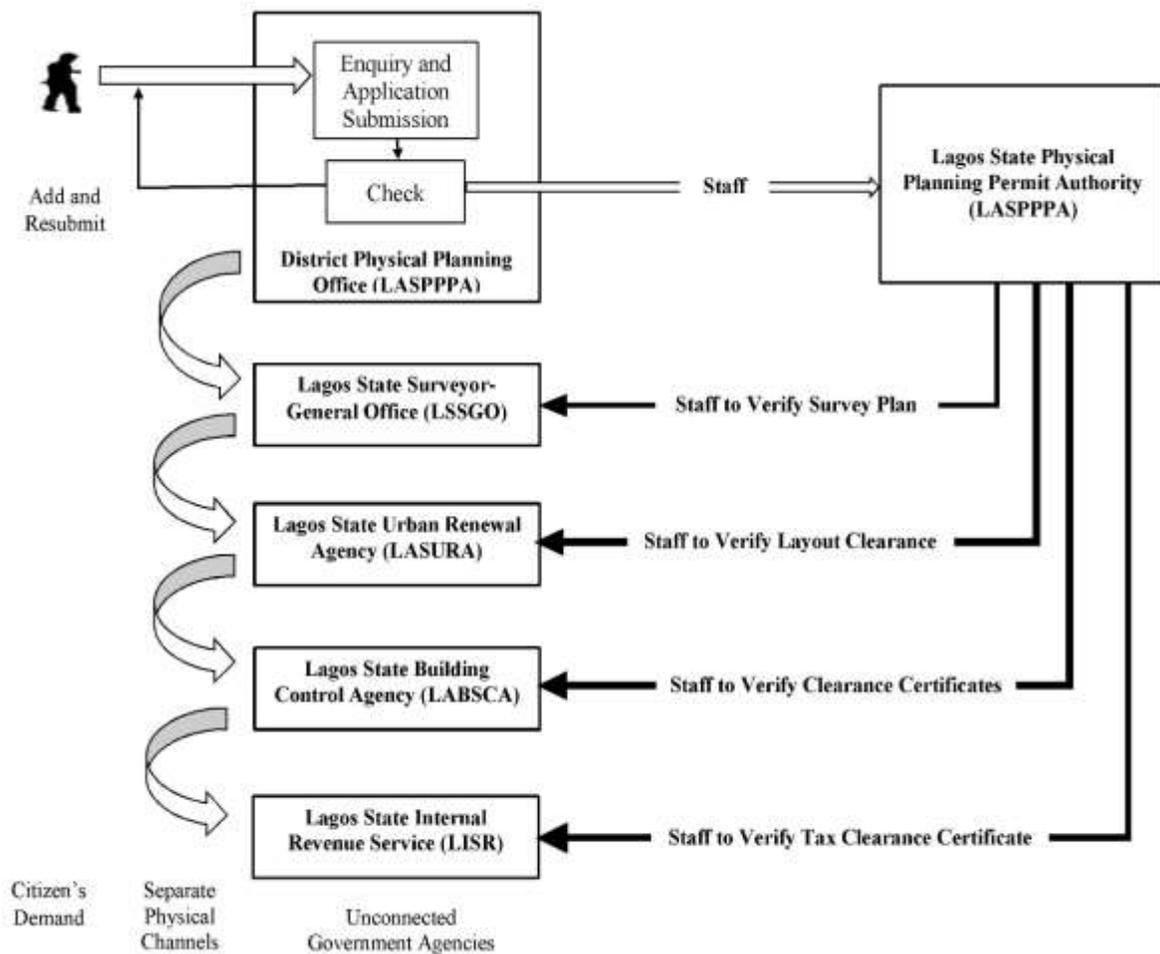


Figure 4.2: Activity Diagram of Current Workflow in the Lagos State HUDA

Step 3: Citizens go back to the district physical planning office with the application form and the required documents. The documents will be assessed, while statutory and treasury bills will be given to go the applicants to pay at the designated banks. No online payment.

Step 4: Staff of LASPPPA at the district office takes the complete application form and the required documents to LASPPPA headquarters.

Step 5: The physical planning directorate in LASPPPA begins to verify the documents submitted manually, since they are not linked with other agencies electronically.

Step 6: The directorate of physical planning approves and issue a development permit if the applicant (citizen) fulfils all the conditions for approval. If not, a disapproval letter is issued.

Step 7: The directorate at the LASPPPA headquarter returns the approval letter, which is development permit or disapproval letter to the district office.

Step 8: Citizen receives the development permit at the district office. If disapproval letter is issued, the applicant calls for an appointment.

Usually, it takes about six months to obtain a permit for the citizens whose application forms and documents are complete and meet the minimum standard specified by the Lagos State government (LASPPPA, 2015). Fragmentation and isolation can be characterised as the major problem confronting the Lagos State HUDA in issuing development permits to the citizens. The lack of an e-Government implementation framework to ensure integrated and citizen focus online service delivery makes the situation worse. Therefore, the researcher proposes an integrated e-Government that would offer a solution to the separatism currently experienced among the Housing and Urban Development Agencies in Lagos State, as this will allow interaction and sharing of information among the agencies thereby reducing citizens' waiting time.

(ii) What is a Development Permit?

A development permit is an approval letter from the Lagos State government allowing a particular development, which may include some conditions to ensure the development adheres strictly to the Lagos State Urban and Development Laws. Development permits approve the use of site location, size of the buildings or structures (City of Edmonton, 2012). It is a requirement to obtain a development permit in Lagos State for renovations of existing buildings, business areas and new constructions.

Unlike some other parts of the world where you need to get a development permit before applying for a building permits itself, in Lagos State 'development permit' is the general term

used to represent the approval document required to develop a building or physical structure. Development on the other hand as used in this context includes excavation, stockpiling, construction of any kind, under, in or on the land or building, of either a temporary or permanent structure. However, it is illegal and punishable under law in Lagos State for anybody to commence development without a development permit (approval document). This shows the importance attached to development permits in Lagos State.

(iii) Requirements for Granting Development Permits

The basic requirements for obtaining a development permit in Lagos State are presented in table 4.3.

Table 4.3: Requirements for Granting Building Development Permits

| S/N | Proposed Development | Basic Requirements | Clearance Required |
|-----|------------------------------------|--|---|
| 1 | Bungalow to 2 nd floors | <ul style="list-style-type: none"> • Five sets of architectural drawings. • Five sets of structural drawings. • Clearance of structural stability in the case of existing structures. • Electrical and mechanical drawings in the case of a public institution. • A copy of beacon sheet or survey plan indicating the location. • Evidence of Title Document/ Land Ownership. • Evidence of Tax clearance payment. • Receipt of payment of statutory fees. • Layout plan clearance. • Health and safety plan. • Notification form from health and safety commission clearance. • Arrangement of site inspections. | <ul style="list-style-type: none"> • LASPPPA • LASURA • LSSGO • LIRS • LABSCA |
| 2 | 3 rd floor and above | <ul style="list-style-type: none"> • Five sets of architectural and structural drawings. • Clearance of structural stability in the case of existing structures. • Electrical and mechanical drawings in the case of a public institution. • A copy of beacon sheet or survey plan indicating the location. • Evidence of Title Document/ Land Ownership. • Evidence of Tax clearance payment. • Receipt of payment of statutory fees. • Layout plan clearance and arrangement of site inspections. • Health and safety plan. • Notification form from health and safety commission clearance. • Soil investigation report and insurance certificate. • Environmental Impact Assessment (EIA) in the case of industrial, commercial or public institution and to be certified by LABSCA. | <ul style="list-style-type: none"> • LASPPPA • LASURA • LSSGO. • LIRS • LABSCA |

(Source: LASPPPA Report, 2015)

4.7.2 Data Collection Techniques

Yin (2009) highlighted the six main sources of information frequently used in case studies namely, archival records, direct observation, documentation, interviews, participant observation and physical observation. Employing multiple sources for data gathering yields results that are more consistent and reliable.

To achieve the specific aim of the study stated in table 4.4, both primary and secondary data were gathered in this study. The primary data assists the researcher to understand the actual practice of integrated e-Government in the agencies, together with the opinions of the participants in the system. The secondary data, on the other hand, provides a profound understanding and confirms the accuracy of data collected through the primary sources. Figure 4.3 illustrates the data collection techniques adopted in this study.

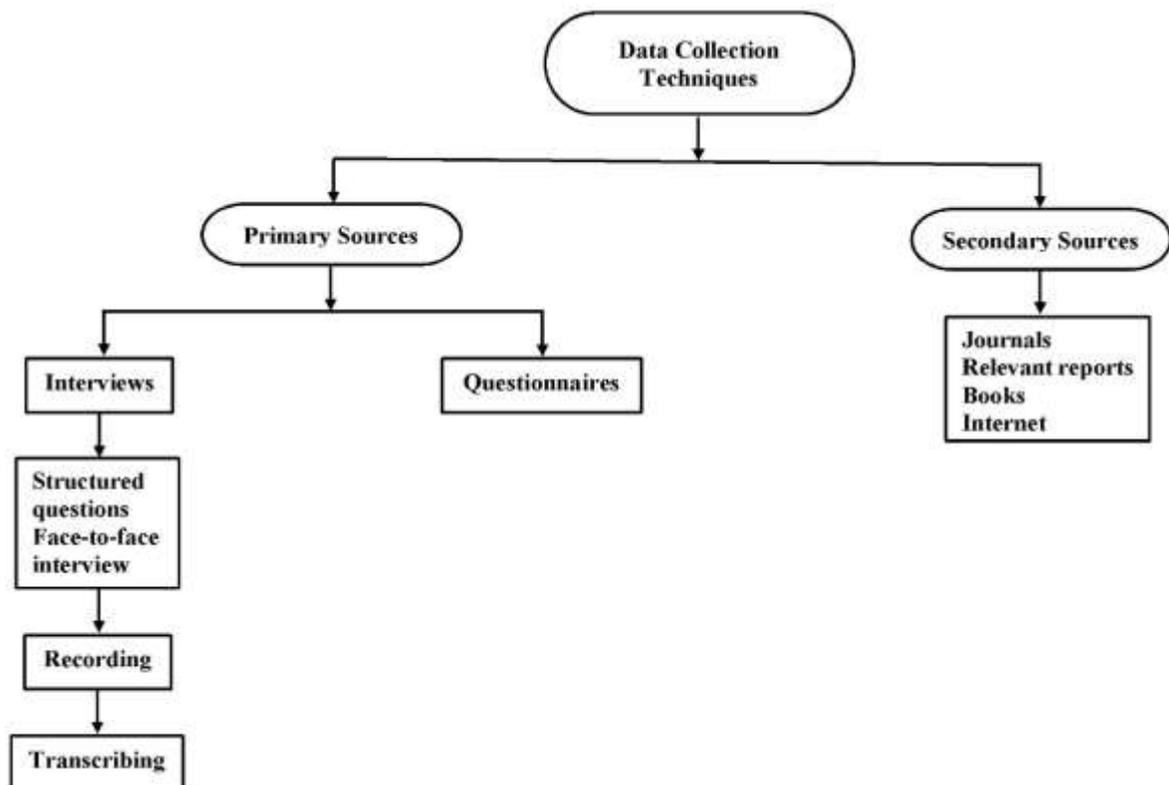


Figure 4.3: Data Collection Techniques

Primary data can be collected through various means which may include interviews, observation, questionnaires, conversation and discourse pertinent to a particular study (Collis & Hussey, 2009). The main benefit of primary data is that it permits the researcher to focus on the necessities of the research. Primary data also produces cause-and-effect and real-action relationship. The researcher proposes three primary strategies which are questionnaires, interviews and document analysis for data collection, but only questionnaires and interviews were feasible, because there was no document analysis (e.g. archival records, working papers and reports) on e-Government in the Lagos State HUDA.

The secondary data was gathered through a review of obtainable literature on e-Government initiatives. Additionally, relevant textbooks, journals and materials from the Internet were also used to acquire knowledge on the present developments and views on e-Government initiatives.

(i) Interview

An interview is a technique of gathering data in which partakers (interviewees) are required to answer questions for the purpose of finding out what they think, do or feel about a phenomenon. The use of an interview makes it stress-free for a researcher to compare answers which may be in the form of face-to-face, screen-to-screen or voice-to-voice conveyed with a single or group of individuals (Ebrahim, 2005).

According to Bryman and Bell (2007) there are three major types of interviews which are structured, semi-structured and unstructured.

- *Structured Interview*: In this type of interview, questions are made ready before the commencement of the interview and the researcher asks precise questions that are in the interview schedule.
- *Semi-structured Interview*: This form of interview is with pre-determined questions which the researcher asks all the respondents in a similar manner without necessarily specifying the sequence in advance. It usually has an open-ended configuration.

- *Unstructured Interview*: In this case, questions are not made ready ahead of time, this leads to unofficial conversations being initiated and controlled by the researcher.

This study adopts interviews as the major source of primary data gathering tool in order to obtain an in depth understanding of integrated e-Government implementation in the midst of the government officials, Information Systems and technology managers, the development team and the citizens of Lagos State.

The interview method was undertaken with two target groups. The first target group being the staff of five Lagos State government agencies and parastatals involved in issuing building development permits to the applicants. The second target group were the citizens or customers applying for building development permits. The reason for interviewing or involving the citizens is to know their own opinion, and understand the real process and rigors involved in getting building development permits from the government agencies.

Thus, two sets of questions were designed for the two groups based on the aim of the interview as well as the objectives of the fieldwork. The interview questions for the staff of the Lagos State Housing and Urban Development Agencies were divided into two (2) main sections namely general questions on interactions between government agencies and citizens, and general questions on integrated e-Government implementation (appendix 3).

Interview questions for the customers applying for development permits were divided into three (3) major areas namely: background information, general questions on building development permit services and closing questions (appendix 4).

After developing and testing the interview guide for the study, the researcher identified the participants to be interviewed in the ICT/IS department and e-Government project team in the Lagos State government Housing and Urban Development Agencies. The researcher also identified the customers to be interviewed through the assistance of the secretaries to the agencies. The sample size for the customers or citizens was restricted to ten, two interviewees

per agency, while that of the government sector officials was limited to fifteen, three per agency.

The researcher conducted interviews comprising of both closed and open-ended questions with staff of agencies from the managerial level to the directorate position. The interview conducted with the customers applying for the building development permits was a semi-structured interview made up of open and close-ended queries. This became indispensable in order to gather data that is credible (valid) and dependable and which would allow the verification of the study's research questions as well as its objectives.

All the interviews were personally conducted by the researcher. Prior to each interviewing exercise, the researcher made initial contact directly with the interviewees to become acquainted with them. Later, the day and time to conduct the interview was agreed upon telephonically. During the initial contact, the researcher gave a covering letter to all the interviewees. This letter included a succinct background of the researcher, the title of the research project, aim of the study, informed consent form, as well as the interview questions for the interviewees to study. The covering letter also guaranteed that the confidentiality and anonymity of records that may identify the participant will be maintained. All the interviewees gave their consent to participate voluntarily without any monetary gain in the study by signing the consent form.

The interviews were conducted one-on-one to ensure that the right skills required to conduct the exercise were displayed, and recorded using an Infinix X1000 tablet. The interviews of the government officials were done in the agencies' meeting room while some took place in the interviewees' offices, for those who had personal offices. The researcher interviewed more of the officials at the managerial level and in the ICT department than Executive Management who gave excuses of having a tight schedule. The interviews for the second group who were the customers applying for the building development permits were also conducted in the agencies' meeting rooms during their visit, after being granted permission from the agencies' secretaries.

The interviews took an average of thirty (30) minutes for the government agencies' officials while that of the citizens applying for the development permits took twenty (20) minutes. The interviews were conducted between August and November, 2015. Thereafter, e-mail exchanges, telephone conversations and face-to-face follow up interviews were conducted with a few of the participants. This gave the researcher the chance to illuminate any equivocal information. The recorded interviews were transcribed in order to obtain a complete record of the conversations in hard copy form. This is in line with Yin (2009) that recording of interviews has the benefit of capturing data more reliably than urgently hand written notes and could make it more comfortable to reflect at any time. It also provides a more precise rendition for any interview than other methods.

(ii) Questionnaires

Johnson and Christensen (2008) describe questionnaires as a self-reporting primary data gathering tool in which individual participants complete as part of the research study. Questionnaires can also be described as a list of prudently formed questions, selected after being substantially pilot tested with the intention of eliciting dependable responses from a selected sample. In other words, one can determine different kinds of characteristics with the use of questionnaires (Bell, 2001; Komba, 2013). Ashaye (2014) concurs that questionnaires are used for measuring facts, values or attitudes of individuals. However, the effectiveness of questionnaires depends on the responses of the participants.

Some of the benefits for using a questionnaire are that it is timesaving, less exorbitant and involves a large sample size. The use of questionnaires enables one to generate descriptive statistics which are representative of the entire study population (Johnson & Christensen, 2008). In this context, it is the appropriate method to obtain data that relates to an institution's perspective of implementing integrated e-Government within the background of government to government and government-to-citizen. Hence, the study adopted questionnaire as the second source of primary data gathering technique. The questionnaire consists of closed questions— which are easier and stress-free to answer as it involves no handwriting. Participants are provided choices for their responses.

Furthermore, the constructs of the variables were measured using a standard five point Likert-type scale which ranges from “strongly disagree” to “strongly agree”. Where “1” is equivalent to the negative end while “5” equals the positive end of the Likert scale for all the elements in the model. The decision for choosing a five point Likert scale opposed to a seven point Likert scale is in line with Hartley and MacLean’s (2006) report which opines that five point scales usually increases the rate of response in any research by up to ninety percent.

Thus, the questionnaire, which comprises a number of sections, incorporates only closed sets of questions. The questionnaire is defined based on the research literature and modification of questions from past studies, unlike the interview questions guide, that focus on two target groups, the officials of the Lagos State Housing and Urban Development Agencies and the citizens applying for development permits. In this case, it is only the officials of the Lagos State Housing and Urban Development Agencies that were administered questionnaires. This is because it is the responsibility of the government to develop the integrated e-Government project. The detailed information required for a successful implementation can more readily be obtained from the government officials. The questionnaire is made up of seven sections; details of which can be found in appendix 2. Tables 4.4 to 4.8 present all the constructs, items that make up the constructs and the codes used to represent them in this study.

Table 4.4: Measurement Scale of Constructs Used for Integrated e-Government Factors

| Constructs | Sub-Factors | Code | Items in the Construct |
|----------------------------|------------------------|-------------|---|
| Technological Factor (TF) | | TF1 | ICT infrastructure |
| | | TF2 | Integrated framework across government agencies that has technological inter-operability. |
| | | TF3 | Technical support for design, implementation and operations. |
| | | TF4 | Internet access |
| | | TF5 | Availability of various communication channels such as mobile devices and Personal Computers (PCs) to access government services. |
| Organisational Factor (OF) | | OF1 | Top management support |
| | | OF2 | Capacity building and training |
| | | OF3 | Skills and strategies to implement integrated e-Government |
| | | OF4 | Monitoring and evaluation of integrated e-government projects |
| | | OF5 | Adequate remuneration for ICT professionals and consultants |
| Environmental Factors (EF) | Regulatory Policy (RP) | RP1 | ICT regulatory policy |
| | | RP2 | Legislation which encourages collaboration across different levels of government and private sectors |
| | | RP3 | Easily accessible laws and regulations to enable e-Government services. |
| | | RP4 | Policy to protect security and privacy of e-Government customers. |
| | Cultural Aspects (CA) | CA1 | Awareness of integrated e-Government. |
| | | CA2 | Awareness of online service delivery |
| | | CA3 | Security and privacy. |
| | | CA4 | Digital divide (Social term referring to the difference between those that have access to the internet and those that do not). |
| | | CA5 | e-Readiness (e-readiness means the ability of a community to use ICT) |
| | | | |

Table 4.5: Measurement Scale of Constructs used for Perceived Benefits

| Constructs | Sub-Factors | Code | Items in the Construct |
|---------------------------|------------------------------------|-------------|---|
| Perceived Benefits (PBen) | Financial Benefits (FB) | FB1 | Reduction in the cost of delivering government services and information |
| | | FB2 | Reduction in time and cost of content development |
| | Organisational Benefits (OB) | OB1 | Improved collaboration among government ministries, departments and public agencies |
| | | OB2 | Increase in data exchange among government agencies |
| | | OB3 | Enhancement of the quality of decision-making processes in the organisation |
| | | OB4 | Research and development |
| | Technical Benefits (TeB) | TeB1 | Improvement in ICT infrastructure |
| | | TeB2 | Prevention of data duplication in the public agencies. |
| | | TeB3 | Prevention of disintegration of public services. |
| | Operational Benefits (OBe) | OBe1 | Quicker response and processing of customers' needs and expectations |
| | | OBe2 | Increase in the productivity of governmental agencies services |
| | | OBe3 | Delivery of services to the customers through a single access point of contact |
| | | OBe4 | Provides a feedback mechanism |
| | | OBe5 | Delivery of services through local and widely available channels. |
| | | OBe6 | Offers the citizens dependable services. |
| | Social and Political Benefits (SP) | SP1 | Strengthening of citizens' relationship with government |
| | | SP2 | Trust in government. |
| | | SP3 | Delivery of highly demanded services |
| | | SP4 | Publishing of information e.g. On government services, statistical information, current rules and regulations |
| | | SP5 | Provision of online services such as e-mail enquiries, applications, permits and e-payments |

Table 4.6: Measurement Scale of Constructs used for Perceived Barriers

| Constructs | Sub-Factors | Code | Items in the Construct |
|--------------------------|-------------------------|------|---|
| Perceived Barrier (PBar) | Technical Barriers (TB) | TB1 | Lack of integrated technology for heterogeneous databases to achieve a single point of contact for the citizen |
| | | TB2 | High cost of ICT equipment, installation, maintenance and operation of integrated e-Government |
| | | TB3 | Lack of multi-communication channels such as mobile phones, digital TVs and Personal Computers (PCs) to access government services. |
| | | TB4 | Lack of reliable power supply |
| | Political Barriers (PB) | PB1 | Lack of accountability and transparency of government administration e.g. corruption and lack of openness |
| | | PB2 | Lack of leadership commitment. |
| | | PB3 | Lack of legislative support. |
| | Strategic Barriers (SB) | SB1 | Lack of clear vision and objectives for e-Government. |
| | | SB2 | Lack of funding or financial resources. |
| | | SB3 | Lack of partnership and collaboration (i.e. Public-private partnership). |
| | | SB4 | Lack of implementation strategies. |

Table 4.7: Measurement Scale of Constructs used for Perceived Risks

| Constructs | Code | Items in the Construct |
|----------------------|------|---|
| Perceived Risks (PR) | PR1 | Unsecured computer rooms and ICT equipment |
| | PR2 | Unauthorised internal and external access to information by intruders |
| | PR3 | Misconception and misuse of integrated e-Government services |
| | PR4 | Cybercrime such as crackers and hackers |
| | PR5 | Threat from trojans, worms and other forms of viruses |
| | PR6 | Infringement on personal privacy as a result of background check and surveillance |

Table 4.8: Measurement Scale of Constructs used for an Implemented e-Government Framework

| Constructs | Code | Items in the Construct |
|--|------|--|
| Integrated e-Government Framework (IntF) | IF1 | It unites e-Government standards to form a unified platform for sharing information resources |
| | IF2 | It provides information services that are based on users' interest or meet different users' needs. |
| | IF3 | Promotes the formulation of laws and regulations |
| | IF4 | Provides advanced online integration capabilities for e-Government information services. |
| | IF5 | Foster a healthy and good service concept. |

Some factors were also considered before administering the questionnaire. These include the following:

- *Pilot Study:* A pilot study is a method used for testing the data gathering instrument before conducting the research. After designing the questionnaire, a pre-test was conducted by administering the questionnaire to seven officials from each of the five agencies. Convenience sampling strategy was adopted for the pre-testing. The reasons for this were to check the clarity, and to test the participants' comprehension to guarantee that the data collected was appropriate for the research questions. The pilot study test also provided ideas and comments that assisted in improving the questionnaires.
- *Questionnaire Administration and Survey Protocol:* After designing and conducting the pilot study using a questionnaire, the next step was to distribute it to the participants. This stage is popularly referred to as questionnaire administration (Ashaye, 2014) whose main drive is to ensure the highest number of participants and invariably maximize the rate of responses.

The protocols followed in administering the questionnaires are discussed accordingly. Firstly, the researcher contacted the General Managers and some Directors in the government agencies to seek their assistance and permission in order to administer the questionnaires to their staff. Prior approval (gate-keepers' letters) was given by the agencies, which were submitted to the university including other items like the questionnaire, interview guide and consent form to obtain ethical clearance.

The entire sample gave their consent to participate in the study. Thereafter, the participants began to complete the questionnaire within the premises of the agencies earlier mentioned and were facilitated by the senior officials of the agencies. Each respondent spent between 20 to 30 minutes completing their questionnaires with the researcher. The questionnaires were filled in in a serene environment at the

participants' own pace and free from external pressure. The survey took place between August and November 2015.

4.7.3 Population Sampling Strategy and Sample Size

According to Parahoo (2006) population is the total number of units from which data can possibly be collected. The target population for the study was the staff and managers from the five agencies of the Lagos State HUDA and the citizens applying for the permits.

Sampling strategy is a technique used to select participants from the target population from whom data is to be collected by considering just the data from a sub-set as opposed to probable cases. Different sampling strategies were used for the different collection strategies. *Interview* - For the qualitative aspect, a non-probability, purposive sampling method was used for the first sample group, which consisted of officials of the Lagos State HUDA. This method gave the researcher the opportunity to select participants that are in strategic positions to provide the data needed in addressing the research problem. Moreover, the purpose of purposive sampling technique was to gather quality data in place of quantity since its strength lies in data-rich case. Probability random sampling method was used for the second sample group which consisted of citizens applying for the building development permits. This method of selection gave each applicant (citizen) equal chances of being selected.

Questionnaire - This study adopted simple random sampling method which is a probability sampling technique to administer the questionnaires to the respondents from the officials of Lagos State HUDA. A simple random sampling strategy gave each participant in the population equal chances of being selected.

Table 4.9 provides the list of participants of both the government officials and the customers that took part in the interview survey. Their designations and codes used to represent them in the study for the sake of anonymity are indicated in table 4.9.

Table 4.9: List of Participants in the Interview

| Target Group | Participant's Designation | Code |
|---------------------|------------------------------|----------------|
| LASPPPA | 1. Director of town planning | Participant 1 |
| | 2. IT officer | Participant 2 |
| LABSCA | 1. IT Manager | Participant 3 |
| | 2. Admin manager | Participant 4 |
| LASURA | 1. Head of IT | Participant 5 |
| | 2. Admin officer | Participant 6 |
| LSSGO | 1. Head of GIS | Participant 7 |
| | 2. Town planning officer | Participant 8 |
| LIRS | 1. Head of IT | Participant 9 |
| | 2. IT Officer | Participant 10 |
| Citizens/ customers | 1. Public sector | Applicant 1 |
| | 2. Self employed | Applicant 2 |
| | 3. Private sector | Applicant 3 |
| | 4. Private sector | Applicant 4 |
| | 5. Self employed | Applicant 5 |

Furthermore, the questionnaires were only administered to the staff of the five HUDA involved in issuing development permits. A sample size of 350 was considered appropriate for a population of 1100 (Krejcie & Morgan, 1970). However, a sample of 293 responses were usable as shown in table 4.10.

Table 4.10: Agencies Administered Questionnaires

| S/N | Name of Agencies | Distributed Questionnaire | Returned Questionnaire | Unreturned Questionnaire | Discarded Questionnaire | Usable Responses |
|-----|------------------|---------------------------|------------------------|--------------------------|-------------------------|------------------|
| 1. | LASPPPA | 70 | 60 | 10 | 2 | 58 |
| 2. | LABSCA | 70 | 58 | 12 | 03 | 55 |
| 3. | LASURA | 70 | 65 | 05 | 04 | 61 |
| 4. | LSSGO | 70 | 63 | 07 | 03 | 60 |
| 5. | LIRS | 70 | 66 | 04 | 07 | 59 |
| | Total | 350 | 312 | 38 | 19 | 293 |

4.8 Data Analysis Techniques

Data analysis is the process of critically examining, cleansing, transforming as well as modelling the data with the goal of revealing the beneficial information that could be applied to support decision-making and conclusion (Bihani & Patil, 2014). It can also be described as the process of inspecting raw data using logical and analytical cognition to extract useful

information that can be used to predict outcomes, formulate conclusions and support decision-making in social science, business and scientific settings (Han, Pei & Kamber, 2011).

Data analysis encompasses diverse techniques and approaches depending on the data collection methods. In this study, the data collected from the interviews and questionnaires was analysed qualitatively and quantitatively respectively.

4.8.1 Qualitative Data Analysis

The operational focus of a qualitative investigation is to recount the live/real experiences of a phenomenon through systematic interviewing or recording of discussions between persons or groups of individuals. This usually involves a huge amount of qualitative evidence collected. It therefore means that there is need to arrange the wide-ranging and various raw data into a concise structure. A thematic analysis technique was considered to be appropriate, since it enable researchers to determine the relationship between various concepts and relate them alongside with other replicated data (Alhojailan, 2012). Thematic analysis also gives the researcher the opportunity to have a better understanding of the potential of an integrated e-Government framework for the Housing and Urban Development Agencies more widely.

Basically, the themes or patterns within data can be identified in two ways namely; inductively or theoretically in thematic analysis. In an inductive approach, data is collected for a specific research subject through focus group interviews or individual interviews. Themes identified in an inductive approach are strongly related to the data gathered; while the theoretical approach is mostly based on the theory or the analysis preferred by the researcher (Corbin & Strauss, 2014). This study adopts the inductive approach because data is specifically gathered for this research via an interview and the themes identified are expected to be related to the data collected.

Since qualitative data (interview) was one of the main sources of primary data in this study, the recorded interviews conducted in English were transcribed directly into text prior to

analysis. As earlier mentioned, thematic analysis was employed to analyse and manage the transcribed text collected from the five case study agencies and the customers. The various factors influencing or impacting the implementation of an integrated e-Government as well as the customers, the major stakeholders and their core activities at each implementation stage were also analysed.

4.8.2 Quantitative Data Analysis

The aim of analysing quantitative data is to ascertain the strength of the relationships existing between the variables within integrated e-Government implementation in the Lagos State HUDA. The quantitative data gathered in this study was statistically analysed using two prevalent software packages, Statistical Product and Service Solutions (SPSS) and Analysis of Moment Structures (AMOS). These two packages are included in 'IBM SPSS Statistics'. The SPSS version 22 was used for initial data preparation and statistical description. This includes data cleaning, screening, coding and handling of missing values, and to test for assumptions which underlies most multi-variate techniques. The procedures and descriptive statistics breakdown is presented in chapter five.

Structural Equation Modelling (SEM) was used for analysing and empirically explaining the relationships among constructs. There are different types of software used for high-quality SEM analyses. For this study, IBM SPSS AMOS was used to test the theoretical model. In addition, the software package was used to test and estimate causal relationships among the variables in the implementation process.

The estimates of these relationships were compared with the expectation of the model to establish if the model delivers a satisfactory narration of an integrated e-Government implementation process for the Lagos State HUDA. In this way, diagrams and tables were used to present data in the most suitable form such as data presentation in numerical forms. Details of these are explained in chapter six.

4.9 Data Quality Control

Data quality control refers to the process of ensuring that data gathering instruments employed by the researcher in the course of the study measure what it is designed for and the measurements are consistent (Sarantakos, 2012). In this study, validity and reliability were considered to be important data quality control measures. Different approaches were used as discussed in the subsections.

4.9.1 Reliability of the Instruments

This term refers to the steadfastness of a measure of concepts or better still the consistency of a measurement. It is a necessary step taken in order to have a valid measure, but does not guarantee the validity of the concept (Neuman, 1994; Abdalla, 2012). Reliability helps to reduce bias and errors in this study through the application of case study and survey questionnaires by documenting the research procedures and estimating the statistical reliability. The use of reliability is to ensure that the proposed instrument measures in the same manner whenever they are applied under same conditions. However, different approaches can be employed to determine the reliability of an instrument. The consistency of the entire scales was considered by applying Cronbach's Alpha. Cronbach's Alpha is a statistical tool used for measuring internal reliability of a series of items.

In order to determine the reliability of the quantitative instrument adopted in this study, a pre-test was conducted and further reliability of the pre-test was established by Cronbach's Alpha (α) using SPSS, since it is commonest measurement for internal consistency (homogeneity). The measure generally has a range of coefficient between 0 and 1, and any value less than 0.7 indicates unsatisfactory internal reliability. A total of 35 participants were selected for the pre-test which represented ten percent of the sample size. The details of the reliability tests conducted in this study are presented in chapter six.

4.9.2 Validity of the Instruments

Validity refers to the degree or manner in which a data gathering instrument measures what it is designed to measure (Bryman, 2012). The use of validity is to guarantee optimum precision or inconsistency of the suggestions and conclusions. Trochim, James and Donney (2007) and Yin (2009) state that it is imperative for all research works to consider construct, internal and external validity, as well as reliability for the study to be credible and meet research quality. In order to ensure the validity of the data gathering instruments applied in the study, construct, internal and external validities were used.

(i) Construct Validity

This validity establishes the right or error free operational measures for the understanding of the phenomenon (Brewer, 2000). To improve the construct validity the following tactics were applied:

- *Multiple sources of evidence* such as questionnaires and interviews were used to allow the coming together of the line of query which led to triangulation. This evidence also reduced the interview bias which might have occurred as a result of the interviewer and respondents' conversations.
- *Chain of evidence* was applied in which facts derived from the incipient research questions to the end became components of the research design process.

(ii) Internal Validity

This type of validity deals with the validation of the instruments, as well as the test it is used to measure. It also has to do with instituting a causal relationship by which some obvious conditions lead to the other. Internal validity led to the establishment of shrewd questioning with which strategies to collect and analyse data were designed (Trochim et al., 2007). Additionally, well instituted theoretical classifications and sub-classifications from relevant literature were used as content analysis. Emerged subgrouping was also obtained through the investigation of pattern regularities such as the interviews, where the participants were both

officials in the ICT department of the government agencies and citizens, were used to draw the inferences to institute the causality.

(iii) External Validity

This alludes to the capacity of applying or generalising the findings from a study (generalisability of a study) to the target population instead of a specific unit of analysis. This study addresses the issue of validity in two ways. The first one centres on case study research which provides analytical generalisation and suggested replication of the result. This replication is reinforced through the use of clearly defined multiple case studies of five government public agencies. The second is based on a survey questionnaire that provides the choice of statistical generalisation where a specific set of results are generalised to the target population. For this situation, the impact of the key factors and the perceptions of integrated e-Government on its implementation process in the Lagos State HUDA were determined and used to deduce conclusions.

4.9.3 Factor Analysis Techniques

Factor analysis is a method used for deconstructing the variance in a measurement into a single or more normal element to reflect what the factors have in common, and this can be accomplished using either confirmatory or exploratory perspective (Hair et al., 2010). Also, factor analysis is a statistical tool for investigating concepts that are difficult to measure directly by breaking down a relatively great size of variables into small interpretable underlying factors. The decision for introducing factor analysis as a data control measure in this study is to remove duplication or redundancy from sets of correlated variables, and represent these variables with smaller and derived ones.

There are two classifications of factor analysis applied in this study namely- Exploratory Factor Analysis (EFA), which is applicable in identifying a complex interrelationship amongst items or group of items that are parts of the unified concepts. Bryne (2010) describes EFA as a technique used under a set up where links between a latent and observed variable is uncertain or unknown. Confirmatory Factor Analysis (CFA) is the second classification

that applies techniques for testing or confirming a pre-specified relationship (Hair et al., 2010). CFA is a more complex technique for testing the hypothesis which the items of specific factors are associated with; and applies Structural Equation Modelling (SEM) for testing measurement models in which loading on factors permit the evaluation of association between observed and unobserved variables (Polit & Beck, 2012).

4.9.4 Data Triangulation

Triangulation is the process of employing multiple data gathering techniques, data sources, theories or analysis to validate findings (Leedy, 1997). Triangulation is equivalent to reliability in quantitative research and involves the use of multiple data sources in an investigation so as to produce a deeper understanding (Dipeolu, 2010). Moreover, triangulation ensures quality, trustworthiness and credibility of a qualitative research, and checks out the consistency of the findings that are derived from different data collection techniques.

There are different types of triangulation methods namely- data, investigation, theoretical and methodical triangulation. The researcher employed multiple methods of data gathering to investigate a single problem using methodological triangulation. Denzin and Lincoln (2011) describe methodical triangulation as a single approach trailed by another to explore a problem and enhance the confidence in the interpretation given. The utmost benefit for the use of various sources of evidence in multiple case studies is to make the conclusion or result of the findings more accurate and convincing (Yin 2009). Multiple level interviews were also conducted from which similar empirical data was collected from the Director, IT Managers and staff of the agencies, as well as customers from the public, private sectors and self-employed persons.

4.10 Ethical Considerations

According to Bryman (2012) the statement of ethical consideration enjoin researchers to expect and to prevent consequences for research work participants that may be predicted to be harmful, and to cautiously consider the likelihood that the experience from the research may be a disturbing one. Ethics are an essential issue in empirical research that should be considered as they are likely to come up in all stages involved in research work and most especially during the incipient stage of the study.

In this research work, before going to the field to conduct interviews and issue survey questionnaires, the researcher obtained an ethical clearance from the University of KwaZulu-Natal (Appendix 1). The process of getting an ethical clearance from the university involved submitting the questionnaire, interview questions and gatekeepers' letters after the approval of the project proposal by the university ethical committee. The government agencies' officials that were interviewed and administered the questionnaires were given cover letters prior to the exercises. The cover letter briefly introduced the researcher, stated the title of the project and purpose of the study.

The cover letter also explained the significance of the participants' involvement in the research and categorically stated that their participation was voluntary and that they may withdraw or refuse to continue with the project whenever they wish, with no negative consequences. The researcher also assured the anonymity and confidentiality of the records that may identify the participant, and that they would be maintained by the IT department of University of KwaZulu-Natal (UKZN). The study adhered strictly to the University of KwaZulu-Natal research ethics policy and code of conduct, and the sources of data used in the research work were acknowledged. Moreover, data management and storage are important aspects of ethical consideration which are discussed.

Data Management and Storage

Since the data collected in this study was sensitive and can be linked with individual subjects such as confidentiality and anonymity, it becomes important to maintain a more secure data storage that will protect the confidentiality of the research subjects. In view of this, the completed questionnaires, the compact disc containing the recorded interviews and the transcribed data were stored in a safe and secured compartment provided by Information Systems and Technology Department of the University of KwaZulu-Natal. This research data will be kept for five years. Following the storage period, the research data will be destroyed in a way that will protect the confidentiality of the research subjects. The hard copies of the data will be shredded while the electronic data files will be deleted from all storage devices including any recycling bins.

4.11 Chapter Summary

The aim of this chapter was to provide the justification for the adoption of a suitable research methodology that would address the research problem. The researcher justified the rationale for selecting a pragmatic philosophical stance for the study, as well as the mixed method research approach that was adopted which enabled triangulation of the combined approaches. A case study strategy was used to conduct the research at a state level through multiple-case studies which provided an opportunity to examine integrated e-Government implementation procedures in their natural settings.

Furthermore, the chapter also set out the research design, data collection and data analysis techniques that were used to investigate the five selected multiple-case studies of the Lagos State Housing and Urban Development Agencies. The procedures for obtaining ethical clearance and its importance in empirical research was discussed in this chapter. Thereafter, the process for storing and disposing of the research data was highlighted.

The next chapter describes the five agencies and analyses the empirical qualitative data gathered through face-to-face interviews with the government officials and the citizens' applying for the development permits. The qualitative data was utilized to validate the projected framework for the implementation of integrated e-Government in the HUDA.

CHAPTER FIVE

CASE AGENCY DESCRIPTION AND QUALITATIVE ANALYSIS

5.1 Introduction

The previous chapter provided the justification for the adoption of a suitable research methodology that would address the research problem. It also set out the research design, data collection techniques and data analysis that were used to investigate the five selected multiple case studies of the Housing and Urban Development Agencies.

This chapter presents the findings of the case study that emerged from the qualitative aspect of the study. A succinct outline of the chapter is presented next. Section 5.1 provides a brief summary of the chapter, while section 5.2 describes the history of Lagos State, Nigeria, and the five case study agencies under investigation.

Section 5.3 categories and analyses the themes identified in the interview with the government officials in the agencies as well as the citizens applying for the building development permits. Section 5.4 summarises the themes identified in the qualitative data analysis by presenting them in tabular form, followed by a brief summary of the chapter.

5.2 Case Study- Lagos State Nigeria

5.2.1 History of Lagos State

Lagos State is one the thirty-six states presently existing in the Federal Republic of Nigeria as at today. Nigeria is a Sub-Saharan African country regarded as a developing nation with a population of about 190,179,168 (Worldometers, 2017). Nigeria is considered to be the biggest geographical entity in the whole of West Africa with an area of 356,669 square miles (or 923,768 square km) located between latitude 40 and 140N, and longitude 0 and 150 East. Lagos State, which was originally called 'Eko' was created on the 27th of May 1967 by the virtue of Decree No. 14 of 1967 for the creation of States and Transitional Provisions (Lagos

State Government, 2016). This restructured Nigeria into 12 States in 1967. Until that time, Lagos Municipality was administered by the Federal Government of Nigeria via the Federal Ministry of Lagos Affairs as regional authority, while the City of Lagos was governed by the Lagos City Council. Likewise, the metropolitan provinces (colonial areas) of Agege, Badagry, Epe, Epe, Ikeja, Ikorodu and Mushin were controlled by the Western region. Lagos State began as an administrative unit on the 11th of August 1968 having Lagos Island as the Federal Capital as well as the State Capital (Lagos State Government Report, 2016).

Lagos State is considered to be the centre of commerce for Nigeria. Besides, historically Lagosians have been so intermixed that no single people or tribe can claim it, although it is dominated by the Yoruba. Since December 2007, Yoruba language was adopted as the second official language after English for discussion and debate in the Lagos State House of Assembly (Lagos State Government Report, 2016).

5.2.2 Location and Area

Lagos State is situated in the South-Western region of Nigeria. It is bound to the East and the North by Ogun State and on the West with Benin Republic, and on the South with Atlantic Ocean which provides a coast line as shown in figure 5.1. Lagos State has a total landmass of 3,557 km² of which 787 km² are made up of creeks and lagoons. The creeks include Badagry Creek, Ebute-metta Creek, Five Cowrie Creek, Kuramo Waters, Lagos Harbour, Lagos Lagoon, Lighthouse Creek, New Canal and Porto-Novo Creek (Lagos State Government Report, 2016).



**Figure 5.1 Map of Nigeria Displaying Lagos State
(Source: Adapted from Map Data Google, 2015)**

5.2.3 Description of Lagos State

Lagos State has the highest population among all the states in Nigeria regardless of the fact that it is the smallest in the country. The state has a population of 17,552,942 inhabitants from the preliminary result of a 2016 census (World Population Review, 2017). The population growth rate of Lagos is about 600,000 annually with a population density of 4,193 persons per square kilometre (Babalola, 2012). The developed or urban regions of the Metropolitan Lagos have a normal thickness of more than 20,000 people for every square kilometre. The city of Lagos is expected to be among the ten most crowded urban areas on the planet, based on the growth rate determined in 2015, according to United Nations estimates (Worldometers, 2017). This study was based on the findings from five public sector organisations in the Lagos State Housing and Urban Development Agencies.

5.2.4 Case Study Agencies

The five case study agencies involved in the issuance of building development permits are discussed in this section.

Agency 1: Lagos State Physical Planning Permit Authority (LASPPPA)

Since Lagos State was created in 1967, the Ministry of Physical Planning and Urban Development has continuously been the core of Town Planning undertakings within the state. The Ministry also controls the affairs of three parastatals, namely the Lagos State Physical Planning Permit Authority (LASPPPA), the Lagos State Building Control Agency (LABSCA) and the Lagos State Urban Renewal Authority (LASURA), that came into existence due to the 2010 Physical Planning Urban Development and Building Control Law (Lagos State Government Report, 2015).

These three agencies are headed by General Managers who report to the Honourable Commissioner via the Permanent Secretary. Additionally, the Lagos State Physical Planning Permit Authority (LASPPA) is made up of various departments and headed by directors. One of the major functions of the agency is to process and issue all planning permits within the state. Other responsibilities the agency are saddled with are stated as follows:

- (i) To monitor and ensure compliance with the provision of operative development plans, approval, approval orders and regulations.
- (ii) To establish Local Planning Permit Offices as well as the Local Council Development Areas and Local Governments to discharge its duties at the Local Government level.
- (iii) To prepare periodic reviews of different categories of development plans such as development guide plans, local plans, town plans and district plans.
- (iv) To keep records of planning permits, applications rejected, granted or withdrawn and their publications in the State Official Gazette.
- (v) To co-operate with the Lagos State Building Control Agency in order to achieve zero tolerance on illegal developments (Lagos State Physical Planning Permit Authority [LASPPPA] Report, 2015).

In view of the listed functions of the agency, it is important to know that the agency needs information from other related agencies such as survey plan from the State Surveyor-General's Office. However, the agency does not have a website of its own through which other relevant agencies can be connected to facilitate the process of building development permit.

Agency 2: Lagos State Building Control Agency (LABSCA)

The incessant collapse of buildings has been a big issue in Nigeria for the past few years, where newly developed and existing buildings collapse. So, to reduce the occurrences of collapsing buildings, the Lagos State Government established the LABSCA in conjunction with the LASPPPA and the LASURA under the Ministry of Physical Planning and Urban Development (LABSCA Report, 2010). The transformation of the State to a megacity brought about the new legislation referred to as the Lagos State Urban, Regional Planning and Development Law, 2010. The law was enforced on 3rd July 2010 and serves as a one-stop legislative source for all physical planning requirements within the state. It was hoped that with the law and implementation of building regulations, the collapse of buildings would be alleviated to zero percent.

The Lagos State Building Control Agency (LABSCA) is headed by a general manager, just like the other two agencies the LASPPPA and the LASURA, who reports directly to the Honourable Commissioner via the Permanent Secretary. The major responsibilities of this agency are to ensure that all ongoing constructions have been granted development permits before the commencement of work, and to help designers, property owners and developers to comply with urban building regulations, building codes and regional planning and development law of 2010 (LABSCA Report, 2010). Other responsibilities of the agency include the following:

- (i) To provide a 24 hour response emergency services (dangerous buildings).
- (ii) To arrange site inspections with the customers and perform random checking.
- (iii) To ensure that there are site layouts and availability of welfare facilities at all times such as construction of phase health and safety plan, notification forms for

the health and safety commission, an induction register, health and safety at work (LABSCA Report, 2010)

It has been observed that this agency has its own website, but operating independently since the remaining four agencies are not linked with it. The researcher opines that even if the Housing and Urban Development Agencies were integrated, government agencies continue to operate disjointedly from citizens' viewpoint thereby compelling them to interact with multiple agencies in order to be satisfied with their building development permits or other requests.

Agency 3: Lagos State Urban Renewal Authority (LASURA)

This is the third parastatal under the Ministry of Physical Planning and Urban Development. The LASURA came into being in 1991 as a result of Lagos State Edict No. 7 of 1991. The agency was updated from the Lagos State Urban Renewal Board to reposition it according to the 2005 vide gazette no. 25 volume 38 of 14th October 2005 (Lagos State Government Report, 2015).

Just like its two counterpart agencies, the Lagos State Urban Renewal Authority (LASURA) is headed by a general manager which reports directly to the Honourable Commissioner via the Permanent Secretary. The main duties of this agency are to prepare and implement approved state urban redevelopment and upgrading projects; and to monitor and identify the areas that need to be upgraded, advising the State Government on renewal or redevelopment programmes accordingly. Other duties of the authority are stated as follows:

- (i) To monitor and identify the areas that needs to be redesigned and exhorting the State Government on reestablishment or redevelopment programmes appropriately.
- (ii) To implement the State Government strategies on urban renewal.
- (iii) To provide decent and reasonable housing for the slum inhabitants (Lagos State Urban Renewal Authority [LASURA] Report, 2015).

Agency 4: Lagos State Surveyor-General Office (LSSGO)

The Survey Directorate as it was formerly called before being upgraded to an agency, has been existing since Lagos State was created in 1967. It was a Directorate under the Ministry of Physical Planning and Economic Development at that time. The directorate became independent when the past Governor Asiwaju Bola A. Tinubu upgraded it to an agency on the 18th of February 2005, with the appointment of Mrs. D.K. Fasasi as the pioneer Surveyor-General. Mr. Joseph O. Agbenla's appointment as the second Surveyor-General was confirmed on the 1st of July 2013. The agency presently has about 162 Staff (Office of Surveyor-General of Lagos Report, 2015).

The primary task of the agency is to provide a survey framework that will expedite the registration of titles under the Land Use Act, and all matters relating to the surveying and mapping of Lagos State, state ministries, parastatals, agencies, departments and local governments. The role of this agency in the building development permit process cannot be overstressed, as it is the basis upon which other agencies depend. Other responsibilities with which the agency is saddled are as follows:

- (i) Cadastral surveys and provision of land information.
- (ii) To determine the status of land locations for the Ministry of Physical Planning and Urban Development.
- (iii) Storage/retrieval of records of surveys of privately owned land and that of the State.

Agency 5: Lagos State Internal Revenue Services (LIRS)

The LIRS is the core agency in charge of revenue generation for the Lagos State Government. The agency is saddled with the responsibilities of collecting taxes. Over the years, Lagos State Internal Revenue Services has improved the State's internally generated revenue (IGR) by implementing various revolutionary programmes and strategies which have impacted positively on revenue generation and collection. To facilitate tax assessment and make payment convenient for tax payers, the LIRS initiated the establishment of a self-assessment filing system for its customers, the first of its kind in Nigeria (LIRS Report, 2015). The Lagos

State Internal Revenue Services is headed by a chairman, who reports directly to the governor of the state. Moreover, the agency is made up of various departments and headed by directors like other government parastatals in the housing sector. Other responsibilities of the agencies are:

- (i) To operate a respected, efficient and obvious internal revenue agency that is sufficiently prepared to collect the appropriate amount of tax revenue at the least cost, to serve the public with respect, quality services and products.
- (ii) To serve the business community, government agencies and residents within the State by providing fair, accurate and timely information as required by the Board of Internal Revenue (BIR) to all tax payers in the state, while providing high quality and transparent customer-oriented service (LIRS Report, 2015).

5.3 Qualitative Data Analysis

This section presents the detailed findings from the qualitative aspect of the study. Five Housing and Urban Development Agencies, as well as the citizens or applicants, were surveyed. The five agencies were identified as Housing and Urban Development Agencies (HUDAs) involved in issuing building development permits in Lagos State, while the citizens were the customers requiring the services of the agencies.

All of the interviews were recorded and transcribed and the transcripts were checked against the recordings by an independent reviewer for accuracy. Moreover, to ensure the reliability and validity of the themes, an independent reviewer was involved to evaluate the themes to ensure that the entire texts were represented. This is in accordance with Miles and Huberman's (1994) view that researchers should enlist an independent reviewer to obtain their feedback, as this will allow the researcher to make a comparison between the two feedbacks. The experiences of the participants in their respective agencies as well as the perceptions of the citizens about e-Government implementation are presented in sections 5.3.1 to 5.3.3.

The interviews conducted among the five housing and urban development agencies allowed the researcher to elicit experiences and views of the respondents regarding the gaps that exist among government agencies (G2G) and the citizens (G2C). The interviews also drew on the various factors that allow for the interaction and sharing of information among the five Housing and Urban Development Agencies (HUDAs) to ensure a unified and appropriate implementation process for an integrated e-Government framework. Participants were given the opportunity to comment on the interactions among government agencies, citizens and the factors affecting integrated e-Government implementation in their respective agencies.

Table 5.1 presents the categories and themes that emerged in the interviews conducted for the officials of Lagos State's HUDA and the citizens applying for the development permits. The number of themes that emerged from the interviews were subsequently classified into 3 major categories, namely interactions among government agencies, integrated e-Government implementation factors and citizens' perceptions of HUDA's services.

Table 5.1: Categories and Themes that emerged in the Qualitative Analysis

| Categories | Major Themes | Sub-Themes |
|---|--|---|
| 1. Interactions among Government Agencies | Agencies' responsibilities | |
| | Processing methods | |
| | Challenges in the HUDA (G2G) | Non-computerisation of operations Lack of integration among the agencies |
| 2. Integrated e-Government implementation factors | Technological factors | Non-availability of ICT infrastructure |
| | | Lack of maintenance culture |
| | | Lack of technical support |
| | | Lack of interoperability and ICT strategy |
| | Organisational factors | Top management support |
| | | Training and development of staff |
| | | Attitudes and cultural aspects |
| | | Resistance to change |
| | | Inadequate remuneration for staff |
| | Environmental factors | Government funding |
| | | Environmental issues |
| | Perceived benefits | Time reduction in government service delivery |
| | | Provision of a holistic platform for sharing information |
| | | Provision of dependable services |
| | | Reduced cost of service delivery |
| | | Improved government transparency and accountability |
| | | Facilitates the formation of laws and regulatory policy |
| | | Perceived barriers |
| | Inadequate funding | |
| | Lack of competent IT professionals | |
| | Lack of communication channels and reliable networks | |
| Lack of electronic link /integration | | |
| Lack of leadership commitment | | |
| Corruption and lack of transparency | | |
| Perceived risks / threats | Infringement on personal data | |
| | Misuse and misconception of the initiative | |
| | Loss of data | |
| | Cybercrime and viral attacks | |
| Participants' perceptions of stakeholders' responsibilities | | |
| | Participants' recommendations | |
| 3. Citizens' perceptions of HUDA's services | Efficiency of the HUDA | Lack of interagency integration |
| | | Complex development permit process |
| | Awareness of the HUDA services | |
| | Accessing information | |
| | Recommendations | Computerisation of services Cooperation / Integration among the Agencies |

5.3.1 Category 1: Interactions amongst Government Agencies (G2G)

The participants were requested to discuss the responsibilities of their agencies, methods of processing development permits and the challenges they face in issuing building development permits to the citizens within the state. The identified major themes can be classified as the agencies' responsibilities, processing methods and challenges in housing and urban development agencies (G2G), and are described below.

5.3.1.1 Agency's Responsibilities

The five agencies (1, 2, 3, 4 and 5) play different roles in the building development process. However, the first-three case studies have some interrelated responsibilities. Some of the responses of the participants are stated as:

“My agency's responsibility is for granting of building development permits to applicants and monitoring of ongoing developments, that is constructions within Lagos State” (Participant 2).

“The responsibility of my agency which is LABSCA is to ensure building developers or property owners comply with building regulations laid down by Lagos State Government in order to avoid building collapse” (Participant 3).

“Basically the major responsibilities of my agency which is Lagos State Urban Renewal Agency are for upgrading, regeneration and redevelopment of projects within Lagos State” (Participant 5).

“Some of the basic responsibilities of the office of the Surveyor-General of Lagos State which I would like to mention, is to provide accurate geo-spatial information and survey plans of land which the government uses for sound decision-making and good governance” (Participant 7).

“The official duty of LIRS is revenue generation for the state which can be achieved through tax collection and administration” (Participant 10).

All of the comments made by the participants suggest that the agencies play different roles in the issuance of building development permit.

5.3.1.2 Processing Methods

Three agencies (1, 2 and 3) acknowledged that they usually access data or information in their agencies manually, which is always tedious and often results in the delay in processing of building development permits. According to one participant:

“Ha, it is difficult to access information because it involves manual searching through the records in the files... You know our operation is yet to be automated” (Participant 2).

Similarly, another participant commented:

“In our organisation, I mean our agency the staff access information in our records manually. Let me be frank with you it is always very tedious searching through files to find applicants’ records” (Participant 3).

Again, another participant notes:

“Oh no, the operations in this agency are yet to be computerised. Things are usually done manually. You know what I mean by that” (Participant 6).

It can be inferred that agencies struggle to access or search for citizens’ information due to manual processing and storage of records. The tedious manual process is inefficient and can be frustrating.

5.3.1.3 Challenges in the HUDA (G2G)

The respondents were requested to comment on the problems that they encounter in interacting with other agencies. From the participants’ responses, a number of gaps and concerns in the efficiency of HUDA (G2G) were highlighted. These concerns are discussed as follows:

(i) Non-Computerisation of Operations

Participants from two agencies (1 and 3) identified lack of computerisation as the major challenge affecting the prompt issuance of building development permit in their agencies. According to one of the participants:

“The part of the development permit process that concerns my agency as a matter of fact has not been computerised. But I think the present regime may look into it” (Participant 5).

Similarly, another participant highlights:

“Oh no, development permits process has not yet been computerised” (Participant 2).

(ii) Lack of Integration among the Agencies

Two agencies (2 and 3) identified the lack of electronic link among the agencies as another challenge confronting their agencies. According to a respondent:

“Some of the challenges we encounter in interacting with other agencies are that the staff of the other agencies may not be reachable and unwillingness to attend to us because of lack of electronic links” (Participant 3).

Again, another participant comment goes thus:

“The problem I think we encounter in this agency concerning our interaction with other relevant agencies is that it usually takes a long time for them to revert to us whenever we request for applicants records... I observed that the root cause of the problem is that the related agencies are not linked together with one another” (Participant 5).

Furthermore, another participant commented on the consequence of these challenges:

“The consequence of this problem is that it takes longer time to process the permit on the part of the agency which results in delay in the issuance of the permit to the citizens” (Participant 1).

It is evident from the comments made so far that the agencies have not computerised their operations. Moreover, insights from the participants suggest that computerisation of records and the integration of the agencies together is key to the effective issuance of building development permits. The long delays in receiving the permits is a cause for concern. This delay results in further degradation of not only the applicant’s socio-economic status, but also in the general socio-economic status of the state.

5.3.2 Category 2: Integrated e-Government Implementation Factors

This section examines the various factors influencing the integrated e-Government implementation in their agencies. The key themes are analysed below using interview excerpts from respondents to illustrate the analysis.

5.3.2.1 Technological Factors

Based on the responses of the participants the following themes emerged under technological factors:

(i) Non-Availability of ICT Infrastructure

Three agencies (1, 2 and 3) acknowledged the non-availability of ICT infrastructure, and also that the available ones are outdated. This factor obviously would affect integrated e-Government implementation in their agencies. According to a respondent:

“Some of the technological challenges confronting our agencies are shortage of power supply and non-availability of ICT equipment...And those that are available are outdated” (Participant 3).

Similarly another participant comments:

“Other technological factor[s] which I think may affect the implementation of integrated e-Government is the non-availability of ICT infrastructure” (Participant 2).

Again, another respondent highlights:

“Some of these factors which I think are really affecting our agency and the entire housing sectors are lack of Internet access, lack of collaboration among State government sectors and we too much rely on foreign technical knowhow. Although, it is improving unlike some years back where we total depend on the foreign companies. All these issues I tell you must be investigated” (Participant 6).

(ii) Lack of Maintenance Culture

The lack of a maintenance culture was identified by one participant as a factor affecting the successful implementation of integrated e-Government in their agency (agency 1). In other

words, the idea of sustainability by means of scheduled maintenance is not part of their plan.

The participant asserts that:

“Other technological factor I think will affect the implementation process is lack of proper maintenance for ICT infrastructure...You know we lack maintenance culture in this country” (Participant 2).

(iii) Lack of Technical Support

Four agencies (2, 3, 4 and 5) identified lack of technical support as a key technological factor affecting the successful implementation of integrated e-Government in their agencies.

Respondents from the same agency affirmed that:

“Other technical aspects which I may suggest are lack of technical support from the technologically developed countries and lack of integrated platform across government agencies. Without this platform it would be extremely difficult to achieve integrated e-Government systems within the housing sectors or in the state” (Participant 8).

Another participant concurred that:

“The other technological factor which I think, apart from those ones mentioned earlier, are insufficient technical support and inadequate supply of electronic devices such as computer, Internet kiosk, PDA and digital TV” (Participant 7).

Similarly, another participant states that:

“Other technological factor I may consider is lack of technical support from the foreign partners” (Participant 3).

Supporting participant 3, another respondent commented that:

“The other technological factor I will like to identify is lack of technical partners to manage our ICT installations” (Participant 10).

All the four agencies identified made similar remarks regarding the lack of technical aid to support integrated e-Government implementation in their agencies.

(iv) Lack of Interoperability and ICT Strategy

Two agencies (2 and 5) out of the five case studies in the study identified the lack of interoperability and ICT strategy as key factors to the implementation of integrated e-Government in their agencies. The narratives of the two participants are as follows:

“Another technological factor I am aware of is lack of technological interoperability among the government agencies. Government agencies in this country founds it difficult to connect themselves together” (Participant 9).

“Other technical factors that came into my mind while I was trying to proffer solutions to this interview questions are government agencies in this part of the world does lack interoperability and ICT strategy which are keys to integrated e-Government” (Participant 4).

5.3.2.2 Organisational Factors

Based on the responses of the participants the following themes emerged:

(i) Top Management Support

Respondents in all of the agencies (1, 2, 3, 4 and 5) commented on the willingness of their top management staff to support the change in their agencies. The respondents from case study 1 stated that:

“Yes, I think they are willing to support the initiative” (Participant 1).

“Yes, I think our management like innovation since everybody wants a change especially the positive one. I am of the opinion that the management in our agency will like to create the awareness and be committed once the system is executed” (Participant 2).

Two respondents from agency 2 comments:

“Yes, I think the top management staff should be willing and committed to support this initiative in my agency” (Participant 3).

“Yes, the top management would be willing to support the initiative provided they can be convinced beyond reasonable doubt that the project will not fail once it kicks start” (Participant 4).

A participant from agency 4 asserts:

“Yes, I think they would be willing to support this change we are even in the era of change so I think they would like it” (Participant 8).

Another participant said:

“Yes, they are trying” (Participant 10).

(ii) Training and Development of Staff

Three agencies (1, 4 and 5) identified training and development of the staff as interesting factors that would positively influence an integrated e-Government implementation in their agencies. Two respondents from case study 1 said affirmatively that:

“Another interesting factor which I think is training and development of the staff for them to be aware of the use of this new technology” (Participant 1).

“Other key organisational factor which I think you need to consider so as not to affect the implementation is training and retraining of the staff which will make them up to date technologically” (Participant 2).

An interviewee from agency 4 commented that:

“As regards organisational factors, one cannot undermine these issues. They are keys to successful implementation. On my own side, I think training of personnel, acquisition of skills and regular appraisal of the projects are vital organisational factors that needs to be put into consideration for a successful implementation of this innovation” (Participant 7).

Similarly, another participant from agency 5 indicated that:

“The factors I want to consider here are engaging competent IT professional and regular training for government officials to catch up with the current of IT development” (Participant 10).

(iii) Attitudes and Cultural Aspects

One agency identified culture and the attitude of government officials as factors that can adversely affect the implementation process in their agency. Two respondents from agency 2 indicated that:

“Other organisational factors which I think may adversely affect the implementation process are culture and the attitude of government officials. They always want to resist change, thinking it will lead to sacking of old or non-computer literate workers” (Participant 4).

“The other organisational factors I think would affect e-Government implementation are the quantity of slack resources, attitude and cultural aspects. All these issues need to be looked into” (Participant 3).

(iv) Resistance to Change

This factor has been identified as a common variable among government officials because they are usually afraid of being laid off. Participants in agency 1 and 3 commented that:

“The barrier I really think can hinder the implementation of this system is resistance to change by the government officials and policy issues... Let us not forget that funding also plays a critical role in the implementation of any project” (Participant 2).

“Government officials being what they are always wanting to resist change, I mean resistance to change such as from manual to computer-based system. This is because they are afraid of being laid-off as a result of incompetency” (Participant 5).

“These two key factors; change management and people’s resistance to change, are very important as they may adversely influence the implementation of this laudable initiative. Staff afraid of not being laid off may want to resist any change either good or bad” (Participant 6).

(v) Inadequate Remuneration for Staff

Inadequate remuneration for ICT professionals and consultants were identified by an interviewee as technological factors that would affect e-Government implementation in their agency. The participant’s comment from agency 4 is stated as follows:

“I am sure you know this that IT jobs are thriving in the market, so inadequate remuneration for ICT professionals and consultants will make them to move to another well paid jobs. So before embarking on this project, government should be ready to remunerate the IT staff very well otherwise people will use their agency as training field where young IT staff can gather experience” (Participant 8).

The evidence from these case studies clearly demonstrates that there are diverse dimensions of organisational factors that influence integrated e-Government implementation in the HUDA.

5.3.2.3 Environmental Factors

Participants were interviewed to comment on how government will fund this project and other environmental factors that they perceive will affect the implementation of e-Government in their agencies. Based on the responses of the participants two sub-themes (government funding and environmental issues) to environmental factors emerged.

(i) Government Funding

- ***Budgetary Allocation/ Loans from the Bank***

With respect to the funding of this e-Government project, three agencies (1, 2 and 4) commented that budgetary allocations and loans from the banks will go a long way to help the government of the state. A respondent stated that:

“Government can fund this project through loans from the bank and increase in budgetary allocation to the housing agencies” (Participant 8).

Similarly, two respondents from the same agency remarked that:

“Oh, government can fund this project through budgetary provision” (Participant 1).

“Government can fund this project through extra budgetary allocation (Participant 2).

Again another participant commented:

“Other environmental factors that are also vital and that can affect integrated e-Government execution are government budgetary allocation and socio-economy issues” (Participant 3).

- **Public Private Partnership (PPP)**

Three agencies (3, 4 and 5), regarding the issue of the funding of the e-Government project, commented on the use of public private partnership (PPP). For example, a respondent posited that:

“For government to fund this project perfectly, there will be need for them to collaborate with the private organisation to form Public Private Partnership (PPP). Beside this I doubt if the project will succeed. We have seen a lot of projects handled by the government which have ended up in failure due to the lackadaisical attitude of the government officials” (Participant 7).

Again, a participant from agency 3 stated that:

“The state government would be able to fund this e-Government project through joint venture with private companies ... My agency cannot fund this project alone, we still depend on the state government for our subvention. So, the best option is joint venture” (Participant 5).

Another respondent commented that:

“Government can fund this project by using tax collected and also bringing in private companies” (Participant 10).

- **Internally Generated Revenue (IGR)**

Two agencies (3 and 5) identified IGR as a means through which government can fund e-Government project in their agencies. According to a participant:

“Interesting one... I think the government can, first of all, start with internally generated revenue (IGR)... I believe what the government is already generating will go a long way to kick start the project” (Participant10).

Similarly, another respondent indicated that:

“I want to believe that through revenue generated and allocations collected, the government should be able to fund the e-Government project easily. If for any reason they want to borrow will be limited” (Participant 9).

(ii) Environmental Issues (Sub-theme)

- **Regulatory Policy and Legislation**

Four agencies (1, 2, 3 and 4) commented on regulatory policy and legislation as other environmental issues that would affect an integrated e-Government implementation in their agencies. Two interviewees from the same agency declared that:

“Other salient environmental factors that may affect the implementation of this project are ICT regulating policy and legislation” (Participant 1).

“Other environmental factors that I think may be inimical to the implementation process are regulatory policy and cultural background...These two factors should be addressed with caution” (Participant 2).

Similarly, another participant comments:

“Other environmental issue that might influence integrated e-Government implementation which I think is very important is lack of regulatory policy that will protect and secure e-Government customers. Otherwise the customers or citizens using system would be exposed to danger such as the yahoo boys who are into scamming in our society” (Participant 5).

Moreover, another participant remarks:

“The environmental factors which I may further consider are willingness, or would you call it readiness on the part of citizens to embrace the revolutionary change. Also, government policy will affect the implementation process in our agency. All these need to be looked into” (Participant 4).

- **Public Policies Enlightenment/ Digital Divide**

Two agencies (3 and 4) commented on public policies enlightenment campaigns and digital divide as other environmental factors that may affect e-Government implementation in their agencies. According to one of the interviewees:

“The other environmental issues which I think are very important and supportive to the implementation process is to enable public policies enlightenment. Government should learn to carry the citizens along with every public service project they are trying to execute. Otherwise the citizens would assume it is another means of siphoning public fund or diverting government money for personal use” (Participant 7).

Another participant states:

“The other factors that I think may affect the implementation of the e-Government are lack of awareness and digital divide. There will need for government to create the awareness and improve on the computer literacy level of the citizens as well as the staff for them not to see the initiative as one usual projects that would fail” (Participant 6).

The evidence from this multiple case study analysis clearly showed that there are different dimensions of environmental factors influencing the implementation of an integrated e-Government in the HUDA.

5.3.2.4 Perceived Benefits

The respondents were asked to comment on the benefits that they perceive their agencies stand to gain in an integrated e-Government implementation. The themes derived from perceived benefits were grouped under major headings and discussed as follows:

(i) Time Reduction in Government Service Delivery

Two agencies (1 and 2) identified reduction in time spent in delivering government services as one of the benefits that the agency stands to gain in an integrated e-Government implementation in their agencies. According to a respondent:

“Certainly, the initiative will be beneficial to the agency as well as the citizens, by reducing the time spent in delivering government services to the citizens” (Participant 3).

Similarly, another participant comments:

“Some of the benefits I think my agency stands to benefits are prompt issuance of development permits and enhanced collaboration among the government agencies” (Participant 1).

(ii) Provision of Holistic Platform for Sharing Information

Two agencies (1 and 2) highlighted the benefits their agencies stand to gain for implementing an integrated e-Government. These are stated as follows:

“Oh wait a little, the major benefit I think my agency stands for is the provision of a holistic platform for sharing information among the agencies” (Participant 6).

Similarly, another participant remarks:

“Some of the benefits I think my agency stands to benefits are prompt issuance of development permits and enhanced collaboration among the government agencies” (Participant 1).

Another respondent from case study 4 states:

“I think the successful implementation of this your integrated e-Government will benefit both the government and the public... For instance, it will unite government standards to form a unified platform for sharing resources, provision of easy access to government services and reduction in time and cost of delivering public services” (Participant 8).

(iii) Provision of Dependable Services

One of the agencies was of the opinion that integrated e-Government implementation would help to provide dependable services to the citizens. This was identified by the participant from case study 1 which remarked as follows:

“I think some of the benefits that may be obtained from the full implementation of this project are provision of dependable services and reduced cost of delivering government services such the development permit which my agency issues” (Participant 2).

(iv) Reduced Cost of Service Delivery

With respect to reduced cost of delivering services, two respondents (agencies 2 and 4) commented that an integrated e-Government system will help to reduce the cost of processing as well as delivery of public services in their agencies. According to a respondent:

“I am of the opinion that if the system is fully operational, it will reduce the cost of processing government public services unlike the manual processing method which we are used to” (Participant 4).

Another respondent stated that:

“Oh I am of the opinion that if this initiative is fully executed, my brother it will bring in some benefits not only to our agency but also the citizens. These benefits I think would include reduction in time and cost of delivering public services, improved harmony among Ministries, Departments and Agencies (MDAs) and improved decision-making process” (Participant 7).

(v) Improved Government Transparency and Accountability

According to respondents in agencies 3 and 5, an integrated e-Government system will help to improve government transparency and accountability. One of the respondents stated that:

“Some of the benefits that I believe my agency stands to gain from implementing integrated e-Government are provisions of sure medium to improve government transparency, accountability and citizen empowerment” (Participant 5).

Another respondent commented that:

“The implementation of the e-Government I believe will bring in transparency in governance” (Participant 10).

(vi) Facilitates Formation of Laws and Regulatory Policy

An agency was of the opinion that if this initiative is properly executed. It will facilitate the formation of laws and regulatory policy. The respondent from case study 5 comments:

“I think everyone of us stand to benefit from this initiative if properly executed. Some of the benefits this may bring to us are up-to-date and real time data/information about citizens, and facilitate the formation of laws and regulatory policy that will be able to combat cyber-crimes” (Participant 9).

The evidence from the participants suggest that the successful implementation of integrated e-Government will be beneficial to the HUDA as well as the citizens applying for building development permits in the state.

5.3.2.5 Perceived Barriers

The participants were asked to highlight the barriers affecting the implementation of integrated electronic government in their agencies. The various barriers identified by the interviewees were grouped in themes and discussed as follows:

(i) Shortage of Power Supply

Four of the agencies (1, 2, 3 and 4) identified shortage of power supply as a barrier affecting integrated e-Government implementation in their agency. According to a respondent:

“Some of the challenges that would confront integrated e-Government implementation in our agency are shortage of power supply and non-availability of ICT equipment... and those that are available are outdated” (Participant 3).

Likewise, another respondent commented that:

“The problems we are facing in this agency as regards ICT are the steady power supply to run it and non-availability or old fashioned ICT equipment” (Participant 2).

Yet another respondent observed that:

“Some of the barriers confronting e-Government infrastructure in our agency is lack of steady power supply. We often change from one power source to the other as a result inadequate power supply and I strongly believe this factor can damage IT installations” (Participant 8).

(ii) Inadequate Funding

Three agencies (1, 2 and 5) identified inadequate funding as a major barrier that will affect the successful implementation of an integrated e-Government in their agencies. According to an interviewee:

“You and I know that barriers which may obstruct the implementation process are limitless. But I will mention severe funding and budgetary defects among others” (Participant 4).

Similarly two respondents from separate agencies commented:

“Other barrier which I think would hinder the implementation of this programme is lack of financial resources or funding and legislation to address the issue of computer crime. You should realise the fact that this is a capital-intensive project which requires adequate funding” (Participant 2).

“The challenges I perceive confronting ICT initiative not only this agency but cut across government sectors are inadequate funding towards the development and enhancement of sophisticated IT equipment” (Participant 9).

(iii) Lack of Competent IT Professional

Two agencies (3 and 5) identified lack of professional ICT staff to handle the installation as some of the obstacles confronting the implementation of an integrated e-Government in their agencies. In an interview with one of the respondents, he clearly stated that:

“The challenge confronting e-Government initiative is that we do not have competent IT professional to manage it” (Participant 10).

The comment of another participant is stated as follows:

“Some of the challenges I perceive confronting my agency and the state generally are inadequate funding to purchase the original equipment and lack of professional ICT staff to handle the installations” (Participant 6).

(iv) Lack of Communication Channels and Reliable Networks

Two agencies (3 and 4) identified lack of communication channels and reliable networks as barriers to the integrated e-Government implementation. According to a respondent:

“Presently the concept of integrated e-Government which you are introducing is new. Am I right? Fine, our agency and the State Government at large lacks the digital communication channels through which the citizens would be able to access the public services” (Participant 5).

Another participant remarks:

“The difficulties we have pertaining to IT infrastructure in our agency are numerous. Although it is not only limited to us alone. I think this cut across all government establishments. It is only the private organisations that have been able to address these problems. Yeah, these problems range from inadequate internet access, lack of communication channels to access government services and reliable networks” (Participant 7).

Based on the comments of the participants, it can be deduced that shortage of power supply and lack of electronic links among the agencies are some of the barriers affecting an integrated e-Government. Moreover, non-availability of ICT equipment, inadequate funding and lack of competent ICT professionals are other barriers that have been identified in the agencies.

(v) Lack of Electronic Link and Disintegration

Four agencies (1, 2, 3 and 4) identified lack of electronic links among the agencies as one of the barriers to an integrated e-Government implementation. One respondent from case study 1 commented:

“The problem we have here in our agency is the lack of link or connection that will facilitate interactions to other agencies in the same sectors” (Participant 2).

Similarly, two participants from case study 2 commented that:

“The problem we frequently face in our agency is lack of link to other connected agencies electronically. We only interact with other agencies physically” (Participant 3).

“The kind of problem we face in interacting with other relevant agencies is there is no easy access to other agency’s information which I think is as a result of disintegration among the agencies” (Participant 4).

(vi) Lack of Leadership Commitment

Of the five agencies that were involved in the study, three agencies (1, 3 and 5) identified leadership commitment as a barrier that may hinder the implementation of the integrated e-Government system in their agencies. According to a participant:

“I think lack of steady power supply and leadership commitment may hinder the implementation of this system... So it is very important to tackle these issues first for a successful implementation to be a reality” (Participant 1).

Another respondent highlighted:

“The major barrier which I think may obstruct the implementation process lack of funding or financial resources; this is followed by lack of leadership support. So many projects failed in this country simply because the leaders were not in support which may be as a result of their own selfishness” (Participant 6).

Again, two participants from case study 2 indicated that:

“Other barriers I think will negatively affect the process of executing the projects are lack of management support, inadequate resources to fund the project and lack of training for the staff” (Participant 9).

“The barrier which I think is also vital is the political will of the leaders” (Participant 10).

(vii) Corruption and Lack of Transparency

Two respondents from agency 4 commented on the corrupt practices of the government officials as follows:

“Other barriers I think will hamper the implementation process is corruption and lack of transparency by the government officials... You will agree with me that most of the government officials are the ones killing government projects...They are never satisfied with little things” (Participant 8).

“Other barriers that will obviously hinder this initiative are corruption, lack of financial support and lack of implementation plans. These three factors would easily make any project to fail without any remedy. Therefore, there is need to seriously tackle them before commencing the project” (Participant 7).

In view of the highlighted comments, it can be deduced that the main barriers affecting an integrated e-Government implementation are: inadequate funding, lack of electronic links and a shortage of power supply. Resistance to change and leadership commitment are other issues commented on the respondents as challenges hindering the successful implementation of an integrated environment in their agencies.

5.3.2.6 Perceived Risks/ Threats

The respondents in the HUDA were requested to comment on the risks or threats involved in implementing an integrated e-Government in their agencies. Their responses were discussed under the following themes:

(i) Infringement on Personal Data

Three agencies (1, 3 and 4) were of the opinion that infringement on personal data stand as a risk to an integrated e-Government in their agencies. One of the participants emphasised that:

“This is a very critical issue. And some of the risks of implementing this initiative may probably be infringement on personal private data. It is an issue that needs to be tackled. If not, the citizens would not be willing to support the operation of the systems” (Participant 1).

Similarly, another interviewee reported that:

“I think government has to be careful with this enterprise. This is because there is no doubt about it, threat such as unauthorised access to citizens’ information by intruders is inevitable, which eventually make them vulnerable to cyber-attack” (Participant 8).

(ii) Misuse and Misconception of the Initiative

An agency (3) identified misuse and misconception of the initiative by the staff and the citizens as some of the risks that may be included in an integrated e-Government implementation in their agencies. This was described by a respondent as follows:

“Some of the risks I envisage with the use of integrated e-Government system in my agency is misuse and misconception of the initiative by the staff and the citizens. What I mean is that our people may misapply the concept for negative things such deleting people’s record and duping innocent ones” (Participant 5).

(iii) Loss of Data

One of the agencies was of the opinion that data loss was a potential risk for the integrated e-Government system in their agency. The respondent stated that:

“Data loss is one of the risks that this system would experience. Do not be surprised hearing our people complaining of loss of data. This issue has to be prevented to avoid discrediting the initiative” (Participant 9).

(iv) Cyber-crime and Viral Attacks

Of the five agencies that participated in the survey, participants from two agencies (2 and 4) perceived cybercrime and viral attacks as threats and risks that would be involved in an integrated e-Government implementation in their agencies. According to a respondent:

“The threats that may emanate from this integrated e-Government system are cyber-crimes such as hacking and threat from viral attack. This needs to be looked into considering the fact that peoples’ personal information is put online; which may make them to be vulnerable to computer crime” (Participant 3).

Another respondent mentioned that:

“Some of the threats I perceive may be involved in the implementation process are cybercrime, viral attacks and misuse of the services by the citizens as well as the agency’s staff themselves” (Participants 7).

Trust is an issue that concerns the citizens.

5.3.2.7 Participants' Perceptions of Stakeholders' Responsibilities

The respondents in the HUDA indicated their views of core activities and responsibilities of the three major stakeholders (i.e. government, company and customers) at every stage of the implementation process.

The respondents from all five agencies acknowledged that the three stakeholders are important in all implementation phases. However, they identified that government plays the most important role at the pre-implementation phase of an integrated e-Government in their agencies. For example, according to a respondent:

“The government has the solitary obligation of ensuring appropriate policy and regulations are put in place at the commencement phase” (Participant 2).

(i) Self-Reported Perceptions of Stakeholders' Activities at the Pre-Implementation Phase

The findings in table 5.2 reveal that almost all of the respondents in the five agencies of LASPPPA, LABSCA, LASURA, LSSGO and LIRS indicated that the three stakeholders have major roles to play in education and staff training, values, culture and religion. Other activities where respondents indicated that only two stakeholders (government and companies) play the most vital roles are ICT infrastructure, establishment of an integrated e-Government department, e-Government strategy, payment system and low cost of software and hardware. Other roles of government as indicated by the participants in all the case studies are in policy formulation and regulation, and reduced taxation.

Table 5.2: Self-Reported Perceptions of Stakeholders’ Activities at the Pre-Implementation Phase

| Main Activities | Agency 1 | | | Agency 2 | | | Agency 3 | | | Agency 4 | | | Agency 5 | | |
|--|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|
| | Stakeholder | | | Stakeholder | | | Stakeholder | | | Stakeholder | | | Stakeholder | | |
| | Government | Companies | Customers |
| Policy and regulation | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| ICT infrastructure | 2 | 2 | | 2 | 1 | | 2 | 2 | | 2 | 2 | | 2 | 1 | |
| Establishment of an Integrated e-Government department | 2 | 2 | | 2 | 1 | | 2 | 2 | | 2 | 2 | | 2 | 1 | |
| E-Government strategy | 2 | 2 | | 2 | 2 | | 2 | 2 | | 2 | 2 | | 2 | 2 | |
| Low cost of software and hardware | 2 | | | 2 | 2 | | 2 | 2 | | 2 | 2 | | 2 | 1 | |
| Payment system | 2 | 2 | | 1 | 1 | | 2 | 2 | | 2 | | | 2 | 2 | |
| Education and staff training | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 |
| Reduced taxation | 2 | | | 2 | | | 2 | | | 2 | | | 1 | | |
| Values, culture and religion | 2 | 2 | 2 | 2 | | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | | 2 |
| Others: | None | | | | | | | | | | | | | | |

(ii) Self-Reported Perceptions of Stakeholders’ Activities during the Implementation Phase

An analysis of the findings in table 5.3 illustrates that the stakeholders have major roles to play in ensuring that the implementation process proceeds smoothly. Government as a stakeholder plays the most significant role as far as integrated e-Government implementation goes. Thus, the majority of the respondents remarked that government is the key player in defining new strategies for business and government, changes in business culture and provision of security.

Table 5.3: Self-Reported Perceptions of Stakeholders’ Activities during the Implementation Phase

| Main Activities | Agency 1 | | | Agency 2 | | | Agency 3 | | | Agency 4 | | | Agency 5 | | |
|--|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|
| | Stakeholder | | | Stakeholder | | | Stakeholder | | | Stakeholder | | | Stakeholder | | |
| | Government | Companies | Customers |
| New strategies for business and government | 2 | | | 1 | | | 2 | | | 2 | | | 1 | | |
| Change in business culture | 2 | | | 1 | | | | 2 | | 1 | 1 | | | 2 | |
| Use of local languages in website | 1 | 2 | | 2 | 2 | | 2 | 2 | | 1 | 2 | | 1 | 1 | |
| Payment through credit cards | 2 | 2 | | 2 | 2 | | 1 | 1 | | 1 | 2 | | 2 | 2 | |
| Secured online transaction | 2 | 2 | | 2 | 1 | | 2 | 2 | | 1 | 2 | | 1 | 1 | |
| Education and training | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 |
| Security | 2 | | | 2 | | | 1 | | | 2 | | | 2 | | |
| Values, culture and religion | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 |
| Others: | None | | | | | | | | | | | | | | |

(iii) Self-Reported Perceptions of Stakeholders’ Activities at the Post-Implementation Phase

Table 5.4 presents the findings from the five case studies about the major stakeholders and the responsibilities to be considered at the integrated e-Government post-implementation phase. Interestingly, similar to the findings obtained during the pre-implementation and implementation stages, all respondents acknowledged that (i) education and training, and (ii) values, culture and religion were significant for all the stakeholders. The respondents all endorsed that these two activities are important for all the stakeholders. This suggests that education and training, values, culture and religion should not be handled with levity, and that adequate provision should be made by the leadership whenever they want to implement an integrated e-Government system.

Table 5.4: Self-Reported Perceptions of Stakeholders’ Activities at the Post-Implementation Phase

| Main Activities | Agency 1 | | | Agency 2 | | | Agency 3 | | | Agency 4 | | | Agency 5 | | |
|--------------------------------|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|
| | Stakeholder | | | Stakeholder | | | Stakeholder | | | Stakeholder | | | Stakeholder | | |
| | Government | Companies | Customers |
| Security | 2 | 2 | | 2 | 2 | | 1 | 2 | | 2 | 2 | | 2 | 2 | |
| Monitoring and updating | 2 | 2 | | 1 | 1 | | 1 | 2 | | 2 | 2 | | 2 | 1 | |
| Online promotion and awareness | 2 | 2 | | 2 | 1 | | 2 | 1 | | 1 | 1 | | 2 | 2 | |
| Customers promotion and trust | 2 | 2 | | 2 | 2 | | 2 | 1 | | 1 | 2 | | 2 | 2 | |
| Education and training | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 |
| Values, culture and religion | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 2 |
| Others: | None | | | | | | | | | | | | | | |

Moreover, almost all the respondents in all the agencies assert that both the government and companies play the vital roles in providing security, monitoring and updating of systems. Other responsibilities of these stakeholders, as identified by the respondents, are to create awareness and online promotion to customers, and also promote trust in the integrated e-Government system.

5.3.2.8 Participants’ Recommendations

In conclusion, the respondents were asked to comment if computerisation of records and online information systems would make the process of issuing building development permits faster and easier. The five agencies (1, 2, 3, 4 and 5) responses are reported as follows:

According to one participant:

“Yes, I am of the opinion that computerisation of the agency’s records will enable speedy access to information which invariably will make the process of development permit much easier and faster” (Participant 2).

Two participants from the same agency agreed to the response above:

“Absolutely yes, computerisation of records and online information systems will facilitate speedy access to applicants’ information” (Participant 3).

“Perfectly yes, I strongly believe if all our records are computerised and made available online; this will go a long way to make our work faster and easier. The reason for this is that we would be able to access data quickly and easily” (Participant 4).

Another participant felt strongly about the usefulness of computerisation:

“Yes of course, I consider computerisation as the best option for any government agency as this will facilitate easy and quick access to applicants’ records” (Participant 5).

Similarly, another respondent explained the efficiency gains in a computerised system:

“Computerisation of records will certainly make our own part of the development permit process faster and easier; this is because the query of information will be faster and reduce the rigours of a manual search. You know what manual search can be so time consuming and overwhelming” (Participant 7).

Lastly, another participant remarked:

“Computerisation of records is a welcome idea as this will reduce the stress of going a long distance before payment of taxes are made” (Participant 10).

5.3.3 Category 3: Citizens’ Perceptions of HUDA Services

The interviews conducted with the citizens applying for building development permits was to elicit from them the gaps that exist between government and citizens (G2C, C2G). The interviews also drew from the applicants their experiences before they are granted building development permits. From the interview survey, the following gaps between government and citizens, as well as their corresponding causes were identified.

5.3.3.1 Efficiency of the HUDA

The respondents were asked the number of housing agencies they needed to visit to obtain their building permits. According to the applicants, they are required to visit and sometimes revisit all five agencies in the housing and urban development sectors. The LASPPA is the

main agency issuing development permits, but customers need to get other documents from the remaining four agencies.

The following factors were found responsible for the gap between government and the citizens:

(i) Lack of Inter-Agency Integration

As discussed under the process of applying for building permits in chapter four (section 4.7.1), all five agencies need to interact with one another to deliver development permit services. The reason for this is that the LASPPA needs to verify the authenticity of documents obtained from the four agencies involved in providing one or two documents which the citizens need to submit with their application forms for the processing of permits. The efficiency of the LASPPA is somehow being affected by the effectiveness of the line agencies. According to official respondents, it takes time for the LASPPA to get feedback response from these agencies, which usually results in pressure from the applicants. Consequently, lack of inter-agency integration has been identified as one of the reasons for the challenges. According to an applicant:

“The agencies waste our time a lot... This is because these agencies are miles apart from one another and are not computerised or linked together” (Applicant 3).

In agreement, another applicant commented on lack of integration among the agencies:

“Moving from one agency to another is a big problem and the reason for this is that the housing agencies are not connected to each other electronically” (Applicant 5).

(ii) Complex Development Permit Process

The processes involved in granting development permit to citizens are too complex. For instance, citizens have to contact four other agencies beside case study 1 (LASPPA), and have to revisit the agencies a number of times for the same purpose. This has apparently affected the effectiveness of the agency on the one hand, and results in delays in the other agencies' responses. Thus, complex development permit process has been identified as a reason for the gap between the government and citizens (G2C).

One of the applicants stated that:

“We visit at least five agencies which usually come back today, come back tomorrow.... To be candid with you it makes the procedures for obtaining building permit extremely complicated” (Applicant 1).

Another applicant commented that:

“This is a serious issue, besides going to the bank for payment and some other issues; we normally visit five government agencies to get the required documents” (Applicant 2).

5.3.3.2 Awareness of the HUDA Services

The respondents were asked to comment on how they know about the responsibilities of the Housing and Urban Development Agencies (HUDAs). The respondents were of the opinion that the agencies did not create enough awareness of their services to citizens. This condition can be regarded as a gap in the awareness of the HUDA’s services because it reduces the applicants’ access to information which would have provided all the requirements and obligations they need to follow. According to an applicant:

“There is a lack of awareness of the housing sectors’ responsibilities to the public. For instance, if you do not visit these agencies you won’t even know they are existing. I think the state government should go on enlightenment campaign to sensitize the public the various functions of the agencies in the building sector” (Applicant 4).

5.3.3.3 Accessing Information

The respondents commented that it takes a long time to get the required information about the procedures for the development permit. According to the respondents this has hindered them from getting precise and well-timed information needed to submit the required documents. This can be regarded as a challenge as a result of the following reason:

Lack of a Computer-based Information System

The HUDA lack a computer based information system. This makes the staff of the agencies rely solely on paper-based files for the provision of the required information to their customers. This results in longer time for customers to get the required information.

According to an applicant:

“There is too much of paper work in all their agencies. I even perceive they don’t have records which is not too good. By now they should have automated their systems to make things easier for us the applicants and for them too” (Applicant 2).

5.3.3.4 Recommendations

The respondents were asked to comment on their expectations from the HUDA. Some key concepts emerged from the interview transcripts, which are stated as follows:

(i) Computerisation of Services

Lack of computerisation of services was identified by some of the participants as some of the challenges confronting the HUDA. Consequently, an applicant suggested that:

“They should computerise their services to make it easier for themselves and their customers” (Applicant 1).

Similarly, another applicant stated the importance of the agencies computerising their operations:

“I expect the agencies to computerise their operations in order to facilitate the issuances of development permits” (Applicant 3).

One of the applicants stated that:

“My expectation is that the agencies responsible for issuing development permit should be computerised” (Applicant 5).

(ii) Cooperation / Integration among the Agencies

Some of respondents recommend the need for the HUDA to be linked together to allow information sharing among themselves. An applicant indicated that:

“The agencies need to be integrated, I mean all the agencies should be linked together to allow sharing of information among themselves and work flow” (Applicant 4).

Similarly, another applicant stated the need for the agencies to be connected electronically:

“The housing agencies should be electronically connected to one another to facilitate accessibility to other housing agencies” (Applicant 2).

It can be deduced that the gap between the government and citizens (G2C), and citizens and government (C2G), is due to the lack of cooperation or integration amongst the agencies, the complex development permit process and the lack of computer-based information systems. Consequently, the citizens recommended that the HUDA should computerise their services, and all agencies that constitute the HUDA should be electronically linked with one another to allow for information sharing.

5.4 Summary of the Themes Identified in the Qualitative Data Analysis

The themes identified in the qualitative data analysis (government officials and citizens) are presented in tables 5.5 to 5.7.

Table 5.5: Factors and Perceptions Affecting the Implementation of an Integrated e-Government

| Implementation Factors | Perceptions |
|---|---|
| (1) Technological Factors | (1) Perceived Benefits |
| Non-availability of ICT infrastructure | Time reduction in government service delivery |
| Lack of a maintenance culture | Provision of a holistic/integrated platform for sharing information |
| Lack of technical support | Provision of dependable services |
| Lack of interoperability | Reduced cost of service delivery |
| ICT strategy | Improved government transparency and accountability |
| | Facilitates the formation of laws and regulatory policy |
| (2) Organisational Factors | |
| Top management support | (2) Perceived Barriers |
| Training and development/ Re-training of staff | Shortage of power supply |
| Attitudes and cultural aspects | Inadequate funding |
| Inadequate remuneration for staff | Lack of competent IT Professionals |
| | Lack of communication channels and reliable networks |
| (3) Environmental Factors | Lack of electronic links and disintegration |
| <i>Government Funding:</i> | Lack of leadership and commitment |
| Budgetary allocation/ provision | Resistance to change |
| Loans from banks | Corruption |
| Public Private Partnerships (PPP) | Lack of transparency |
| Internally Generated Revenue (IGR) | |
| <i>Environmental Issues:</i> | (3) Perceived Risks/Threats |
| Regulatory policy and legislation | Infringement on personal data |
| Public policies enlightenment/ awareness | Misuse and misconception of the initiative |
| | Loss of data |
| Digital divide | Cybercrime and viral attacks |

Table 5.6: Perceived Responsibilities of Stakeholders at Each Developmental Phase

| Development Phase | Major Stakeholders | | | Main Activities |
|---------------------------|--------------------|---------------|---------------|--|
| | Gover nment | Comp anies | Custo mers | |
| Pre-Implementation Phase | √ | | | Policy and regulation |
| | √ | √ | | ICT infrastructure |
| | √ | √ | | Establishment of an Integrated e-Government department |
| | √ | √ | | E-Government strategy |
| | √ | √ | | Payment system |
| | √ | √ | | Low cost of software and hardware |
| | √ | √ | √ | Education and staff training |
| | √ | | | Reduced taxation |
| | √ | √ | √ | Values, culture and religion |
| Implementation Phase | √ | | | New strategies for business and government |
| | √ | √ | | Secured online transactions |
| | √ | | | Change in business culture |
| | √ | √ | | Payment through credit cards |
| | √ | √ | | Usage of indigenous languages on website |
| | √ | √ | √ | Education and training |
| | √ | | | Security |
| | √ | √ | √ | Values, culture and religion |
| Post-Implementation Phase | √ | √ | | Security |
| | √ | √ | | Customers promotion and trust |
| | √ | √ | | Online promotion and awareness |
| | √ | √ | | Monitoring and updating |
| | √ | √ | √ | Education and training |
| | √ | √ | √ | Values, culture and religion |

Table 5.7: Challenges Confronting the HUDA and Recommendations for Improvement

| |
|---|
| (i) Processing Methods |
| Manual (Challenge) |
| (ii) Challenges in the HUDA's Efficiency |
| Non-computerisation of operations |
| Lack of integration between the agencies |
| (iii) Challenges Identified by the Citizens |
| The HUDA's efficiency: <ul style="list-style-type: none"> • Lack of inter-agency integration • Complex development permit process |
| Non-awareness of the HUDA's services |
| Accessing information: <ul style="list-style-type: none"> • Lack of computer-based information systems • Lack of integration between the agencies |
| Challenges in feedback response |
| (iv) Recommendations from Government Officials and the Citizens |
| Computerisation of records and services |
| Online information systems |
| Co-operation and integration between the agencies |

5.5 Chapter Summary

This chapter described the history of Lagos State Nigeria- which was the study site, and briefly discussed the five multiple case study organisations under investigation. The chapter further presented the analysis of the qualitative data gathered from the five multiple case studies (LASPPPA, LABSCA, LASURA, LSSGO and LIRS). Data was gathered via responses from survey interviews with government officials and citizens requiring the services of the HUDA, in an effort to answer the research questions and to validate the projected conceptual structure.

The empirical findings from the qualitative data analysed were summarised in tabular form for easy perusal and understanding. The next chapter presents the statistical analysis of quantitative data gathered via questionnaire responses from the five case study agencies.

CHAPTER SIX

QUANTITATIVE DATA ANALYSIS

6.1 Introduction

The preceding chapter presented the analysis of the findings from qualitative data gathered through responses from interview. This chapter presents the case study findings based on a statistical analysis of the quantitative data obtained through the second primary data source. These were used to establish an integrated e-Government implementation framework for the Housing and Urban Development Agencies (HUDAs).

Section 6.1 provides a concise outline of the chapter, whereas section 6.2 briefly explains the data preparation and screening of quantitative data collected. Section 6.3 presents the descriptive statistics of the items relating to the six constructs utilised in this study. Section 6.4 provides the inferential analysis of the key variables that influence an integrated e-Government implementation in the HUDA.

Sections 6.5 and 6.6 present and analyse the key constructs and the implemented integrated e-Government framework. Moreover, section 6.7 briefly summarises the findings from the analysed quantitative data, whereas section 6.8 shows how the quantitative findings strengthen some of the themes of the qualitative findings. Lastly, a summary of the chapter is provided.

6.2 Data Preparation and Screening

Pallant (2011) contends that before a researcher analyses his or her data, it is important to check if there is any error in the dataset, as it is easy to mistakenly enter wrong data or make some errors which can skew the analysis. For instance, some analysis is sensitive to what is referred to as ‘outlier’. The author further describes the term ‘outlier’ as values that are considerably different from the dataset, either well above or well below other scores.

Therefore, the data for each of the variables were thoroughly checked for the scores that did not fall within the possible score range. But because the sample size used for this study was not too large, there was little chance of many outliers. The outliers were removed and cases with missing values less than 10 per cent were treated by imputation method - a statistical process used for replacing missing data with substituted values, while the cases with missing values with more than 10 per cent were removed from the analysis.

A total of 350 survey questionnaires were distributed to the officials of the five agencies involved in issuing building development permits to the residents or citizens of Lagos State Nigeria. Seventy (70) questionnaires were distributed to each of the agencies as shown in table 4.10 of chapter four. Out of the 350 questionnaires distributed, only 312 responses were returned representing a response rate of 89.1 per cent, which is considered acceptable. However, out of the 312 returned questionnaires, 19 were discarded because some questions were unanswered, while some respondents gave multiple answers to some questions that required only one answer. Hence, only 293 questionnaires were analysed. The data obtained through the questionnaire were statistically analysed using SPSS and SEM technique in AMOS.

Structural Equation Modelling (SEM) is a multivariate statistical analysis technique used for analysing structural relationships between measured variables and latent constructs. SEM was used to determine and verify the proposed model indicated in chapter three. The key strength for using SEM is that it can identify and assess more complicated path models with mediating variables between independent and dependent variables as well as the non-observable (latent) factors as well.

6.3 Descriptive Statistics

6.3.1 Background Information of the Participants

Table 6.1 presents the demographical information of the participants. Out of the 5 agencies involved in issuing building development permits to Lagos State citizens or applicants, 58 (19.8 per cent) respondents were from the LASPPPA and 55 (18.8 per cent) respondents were from the LABSCA. 61 (20.8 per cent) participants were from the LASURA, while 60 (20.5 per cent) participants were from the LSSGO and 59 (20.1 per cent) from the LIRS.

Table 6.1: Background Information of the Participants

| Variables | Agency 1 LASPPPA | Agency 2 LABSCA | Agency 3 LASURA | Agency 4 LSSGO | Agency 5 LIRS | Total |
|--|---------------------|--------------------|--------------------|-------------------|------------------|----------------|
| Agencies' Response Rate | 58 (19.8%) | 55 (18.8%) | 61 (20.8%) | 60 (20.5%) | 59 (20.1%) | 293 (100%) |
| Age Group | | | | | | |
| 20 to 29 years | - | 1(0.33%) | 7 (2.4%) | 19 (6.5%) | 4(1.4%) | 31 (10.6%) |
| 30 to 39 years | 12(4.1%) | 18 (6.1%) | 13(4.4%) | 20 (6.8%) | 23(7.9%) | 86 (29.4%) |
| 40 to 49 years | 37(12.6%) | 36(12.3%) | 41(14.0%) | 15(5.1%) | 17(5.8%) | 147 (50.2%) |
| 50 to 59 years | 9 (3.1%) | - | - | 5(1.7%) | 15(5.1%) | 29 (9.9%) |
| Gender | | | | | | |
| Male | 40 (13.7%) | 39(13.3%) | 28(9.6%) | 47 (16.0%) | 44(15.0%) | 198 (67.6%) |
| Female | 18 (6.1%) | 16 (5.5%) | 33(11.3%) | 13(4.4%) | 15(5.1%) | 95 (34.4%) |
| Highest Levels of Qualification | | | | | | |
| ND/NCE | - | 3(1.0%) | 1(0.33%) | 8 (2.7%) | - | 12 (4.1%) |
| HND/Bachelor's Degree | 29(9.9%) | 40 (13.7%) | 51 (17.4%) | 39 (13.3%) | 27(9.2%) | 186 (63.5%) |
| Master's Degree | 25(8.5%) | 12 (4.1%) | 9 (3.1%) | 9 (3.1%) | 28(9.6%) | 83 (28.3%) |
| Others | 4(1.4%) | - | - | 4(1.4%) | 4(1.4%) | 12 (4.1%) |
| Position of Employment | | | | | | |
| Manager | 49 (16.7%) | 51 (17.4%) | 54 (18.4%) | 55 (18.8%) | 52(17.8%) | 261 (89.1%) |
| Director | 8(2.7%) | 4(1.4%) | 6(2.1%) | 5(1.7%) | 6(2.1%) | 29 (9.9%) |
| General Manager | 1(0.33%) | - | 1(0.33%) | - | 1(0.33%) | 3 (1.0%) |

(Sample Size (N) = 293)

It is apparent from table 6.1 that the LASURA has the highest response rate followed by the LSSGO. The LIRS took the third position followed by the LASPPPA, and in last place was the LABSCA. Most of the participants were within the age category of 40-49; this constitutes 147 of participants, which represents 50.2 per cent of the total respondents. The majority of the respondents' highest qualification was a HND/Bachelor's degree 186 (63.5 per cent).

6.3.2 Citizens' Awareness of HUDA Services

The citizens' awareness of HUDA services were ascertained by requesting the participants to indicate their views on the agencies' responsibilities, how the citizens knew about the responsibilities of their agency, whether they had a reception area to receive development permits' applicants, and the process of lodging their complaints to the agencies.

From table 6.2, it is clear that the majority of the respondents from the 5 agencies (LASPPPA, LABSCA, LASURA, LASSGO and LIRS) lodge their complaints to the respective agencies through direct contact. Apparently it was indicated in table 6.2 that the majority of the respondents from four of the agencies (LASPPPA, LABSCA, LASURA and LASSGO) were knowledgeable about the agencies' responsibilities through direct contact with the offices. While the majority of the participants 35 (59.3 per cent) in LIRS specified that they were familiar with the agency's responsibilities by means of advertisements.

Table 6.2 Citizens' Awareness of HUDA Services

| Variables | Agency 1 LASPPPA | Agency 2 LABSCA | Agency 3 LASURA | Agency 4 LSSGO | Agency 5 LIRS | Total |
|--|---------------------|--------------------|--------------------|-------------------|------------------|----------------|
| Agencies' Responsibilities | | | | | | |
| - To process and issue all development permits in the state | 58 (19.8%) | | | | | |
| - To process and issue all development permits in the state | | 55 (18.8%) | | | | |
| - To prepare and implement approved state urban upgrading and redevelopment projects | | | 61 (20.8%) | | | |
| - To provide survey plan or framework | | | | 60 (20.5%) | | |
| - For revenue collection | | | | | 59 (20.1%) | 293 (100%) |
| Reception (Front-Office) | | | | | | |
| Yes | 38 (65.5%) | 54 (98.2%) | 23 (37.7%) | 55 (91.7%) | 55 (93.2%) | 225 (76.8%) |
| No | 20 (34.5%) | 1(1.8%) | 38 (62.3%) | 5 (8.3%) | 4 (6.8%) | 68 (23.2%) |
| Mechanisms for Lodging Complaints | | | | | | |
| Complaints box | 1 (1.7%) | 1 (1.8%) | - | 6 (10%) | 2 (3.4%) | 10 (16.9%) |
| Direct contact | 39 (67.2%) | 46 (83.6%) | 39 (63.9%) | 43 (71.6%) | 43 (72.9%) | 210 (76.7%) |
| Feedback Register | 1 (1.7%) | 1(1.8%) | - | 1 (1.7%) | 1 (1.7%) | 4 (1.4%) |
| Mail | 15 (25.9%) | 6 (10.9%) | 22 (36.1%) | 9 (15%) | 10 (16.9%) | 62 (21.2%) |
| Phone | 2 (3.5%) | 1 (1.8%) | - | 1 (1.7%) | 3 (5.1%) | 7 (2.4%) |
| How the Citizens know the Agencies' Responsibilities | | | | | | |
| Through the agency website | 6 (10.3%) | 3 (5.5%) | - | 9 (15%) | 10 (17.0%) | 28 (9.5%) |
| Direct contact with office | 48 (82.8%) | 45 (81.8%) | 61 (100%) | 49 (81.7%) | 14 (23.7%) | 217 (74.1%) |
| Advertisement | 4 (6.9%) | 7 (12.7%) | - | 2 (3.3%) | 35 (59.3%) | 48 (16.4%) |

(Sample Size (N) = 293)

6.3.3 Use of Integrated e-Government Systems

Respondents were requested to indicate their understanding of the use of integrated e-Government in their agencies. Table 6.3 presents the use of integrated e-Government by the participants in the agencies.

Table 6.3: Use of Integrated e-Government Systems

| Variables | Agency 1 LASPPA | Agency 2 LABSCA | Agency 3 LASURA | Agency 4 LSSGO | Agency 5 LIRS |
|---|----------------------------|----------------------------|----------------------------|---------------------------|--------------------------|
| Use of an Integrated e-Government System | | | | | |
| I am just hearing the term integrated e-Government for the first time | 23 (39.7%) | 12 (21.8%) | 37 (60.7%) | 27 (45%) | 14 (23.7%) |
| I have heard of integrated e-Government and have used it for a short time | 2 (3.5%) | 3 (5.5%) | 3 (4.9%) | 11 (18.3%) | 8 (13.5%) |
| I have only attended seminar that relate to integrated e-Government | 14 (24.1%) | 5 (9.1%) | 2 (3.3%) | 4 (6.7%) | 3 (5.1%) |
| Just planning to use integrated e-Government | 18 (31%) | 12 (21.8%) | 18 (25.5%) | 10 (1.7%) | 6 (10.2%) |
| Extensive user of integrated e-Government | 1 (1.7%) | 23 (41.8%) | 1 (1.6%) | 8 (1.3%) | 28 (45.5%) |
| Use of the Internet | | | | | |
| Not at all | 3(5.2%) | 7 (12.7%) | - | 1 (1.7%) | - |
| Less than a year | - | - | 1 (1.6%) | 6 (10%) | - |
| 1 to 5 years | 30 (51.7%) | 38 (69.1%) | 56 (91.8%) | 37 (61.7%) | 7 (11.9%) |
| 6 to 10 years | 25 (43.1%) | 10 (18.2%) | 3 (4.9%) | 7 (11.7%) | 34 (57.6%) |
| More than 10 years | - | - | 1 (1.6%) | 9 (15%) | 18 (30.5%) |
| Advent of Agency's Website | | | | | |
| We do not have a website | 19 (32.8%) | 15 (27.3%) | 43 (71.7%) | 21 (35%) | - |
| Less than a year | - | - | 1 (1.6%) | 8 (13.3%) | 1 (1.7%) |
| 1 to 5 years | 35 (60.3%) | 38 (69.1%) | 15 (24.6%) | 18 (30%) | 9 (15.3%) |
| 6 to 10 years | 4 (6.9%) | 1 (1.8%) | 2 (3.3%) | 9 (15%) | 37 (62.7%) |
| More than 10 years | - | 1 (1.8%) | - | 4 (6.7%) | 12 (20.3%) |

(Sample Size (N) = 293)

From table 6.3, it is clear that the majority of the respondents from three out of the five agencies (LASPPPA 39.7 per cent, LASURA 60.7 per cent and LSSGO 45 per cent) pointed out that they were just hearing about integrated e-Government for the first time. This is followed by the respondents in LABSCA (41.8 per cent) and LIRS (45.5 per cent) that showed that they are extensive users of integrated e-Government. However, a small number of the participants from all of the agencies specified that they have heard and attended seminars that relate to integrated e-Government.

Two agencies (LASURA 71.7 per cent and LSSGO 35 per cent) specified that they do not have websites. Two other agencies (LASPPPA 60.3 per cent and LABSCA 69.1 per cent) specified that their agencies' websites were launched between 1 to 5 years ago; while the remaining agency (LIRS, 62.7 per cent) specified that they had their website for between 6 to 10 years.

6.3.4 Participants' Perceptions of the Process in Obtaining a Development Permit

The participants were required to indicate their perceptions in the process of obtaining a development permit in their agencies. The views identified in the questionnaire as summarised in table 6.4 revealed the following:

(i) Accessing Information

There appears to be a need for information sharing among the five agencies. Access to this information sharing among the government agencies is required for each agency to process its own part of the development permit process. The majority of the agencies highlighted access to information as a need. Only a small percentage of the participants indicated that their agencies do not need or require any information from other agencies.

Table 6.4: Participants' Perceptions of the Process in Obtaining a Development Permit

| Variables | Agency 1 LASPPPA | Agency 2 LABSCA | Agency 3 LASURA | Agency 4 LSSGO | Agency 5 LIRS | Total |
|---|---------------------|--------------------|--------------------|-------------------|------------------|----------------|
| Need for Information from Other Agencies | | | | | | |
| Yes | 55 (94.8%) | 53 (96.4%) | 59 (96.7%) | 54 (90%) | 57 (96.6%) | 278 (94.9%) |
| No | 3 (5.2%) | 2 (3.6%) | 2 (3.3%) | 6 (10%) | 2 (3.4%) | 15 (5.1%) |
| Links to Other Agencies | | | | | | |
| My agency has links to other agencies, but not electronically. | 27 (46.6%) | 29 (52.7%) | 3 (4.9%) | 21 (35%) | 42 (71.2%) | 122(41.6 %) |
| My agency does not have links to other agencies but plans are underway to create the link. | 31 (53.4%) | 18 (32.7%) | 49 (80.3%) | 33 (55%) | 14 (23.7%) | 145(49.5 %) |
| My agency does not have links to other agencies and there are no plans for it. | - | 8 (14.6%) | 9 (14.8%) | 6 (10%) | 3 (5.1%) | 25(8.9%) |
| Ways of Accessing Data/Information | | | | | | |
| Electronically | 34 (58.6%) | 42(76.4%) | 49 (80.3%) | 42 (70%) | 4 (6.8%) | 171(58.4 %) |
| Manually | 24 (41.4%) | 13 (23.6%) | 12 (19.7%) | 18 (30%) | 55 (93.2%) | 122 (41.6%) |
| Computerisation of Development Permit Process | | | | | | |
| Yes | 4 (6.1%) | 6 (10.9%) | 2 (3.3%) | 42 (70.0%) | 50 (84.7%) | 104 (35.5%) |
| No | 54 (93.1%) | 49 (89.1%) | 59 (96.7%) | 18 (30.0%) | 9 (15.3%) | 189 (64.5%) |
| Days to Provide Type of Development Permit Handled by each Agency | | | | | | |
| 1 – 5 days | - | 13 (23.6%) | - | 6 (10.0%) | 50 (84.7%) | 59 (20.1%) |
| 6 – 10 days | - | - | - | 24(40%) | 6(10.2%) | 30(10.2%) |
| 11 – 19 days | 19 (32.8%) | 1 (1.8%) | - | 10(16.7%) | 1 (1.7%) | 31(10.6 %) |
| 20 – 29 days | 4 (6.9%) | 6 (10.9%) | - | 12(20.0%) | 1 (1.7%) | 23 (%) |
| 30 days and above | 35 (60.3%) | 35(63.6%) | 61 (100%) | 8 (13.3%) | 1 (1.7%) | 140 (%) |
| Computerisation of Records and Online Information Systems Makes Permit Process Easier and Faster | | | | | | |
| Strongly disagree | - | 1 (1.8%) | - | 2 (3.3%) | 1 (1.7%) | 4 (1.4%) |
| Disagree | - | - | - | - | - | - |
| Neutral | - | - | - | 3 (5.0%) | - | 3 (1%) |
| Agree | 25 (43.1%) | 34 (61.8%) | 35 (57.4%) | 19 (31.7%) | 8 (13.6%) | 121(41.3 %) |
| Strongly agree | 33 (56.9%) | 20 (36.4%) | 26 (42.6%) | 36 (60.0%) | 50 (84.7%) | 165(56.3 %) |

(ii) Lack of Links and Integrated Working Mechanism

From table 6.4 it is evident that the majority of the respondents from the three agencies (LASPPPA (53.4 per cent, LASURA (80.3 per cent) and LSSGO (55 per cent)) indicated that their agencies do not have links to other agencies in the HUDA. However, plans are underway to create electronic links. The LABSCA (52.7 per cent) and the LIRS (71.2 per cent), on the other hand, specified that their agencies have links to other agencies, but not electronic ones.

(iii) Lack of Computer-Based Information Systems

Similarly, most participants in all five Housing and Urban Development Agencies specified that they usually access information manually, except for the Lagos State Inland Revenue (LIRS) agency where information is usually accessed electronically. Additionally, the majority of respondents in three of the agencies (LASPPPA 93.1 per cent, LABSCA 89.1 per cent and LASURA 96.7 per cent) indicated that their responsibilities in the development permit process is not computerised. The remaining two agencies (LSSGO 70 per cent and LIRS 84.7 per cent) specified that their parts of the development permit process are computerised.

(iv) Challenges in Feedback Response

Furthermore, the majority of the participants in the LASPPPA (60.3 per cent), the LABSCA (63.6 per cent) and the LASURA (100 per cent) submitted that it usually takes 30 days or more to provide each type of development permit process handled by their agencies; while the majority in the LSSGO (40 per cent) and the LIRS (84.7 per cent) indicated that their parts of the development permit process takes 6 to 10 days and 1 to 5 days respectively to process.

(v) Recommendations

The majority of the respondents from three agencies (LASPPPA 56.9 per cent, LSSGO 60 per cent and LIRS 84.7 per cent) strongly agreed, while the LABSCA (61.8 per cent) and the LASURA (57.4 per cent) only agreed, that computerisation of records and online information

systems would make permit processing easier and faster. The majority of the respondents from the LASPPA (63.8 per cent), the LABSCA (54.6 per cent) and the LASURA (52.5 per cent) agreed that it is much easier and more secure to transfer documents electronically than with the manual method. This was followed by the LSSGO and the LIRS that strongly agreed with (51.7 per cent) and (61 per cent) respectively.

6.4 Inferential Statistics

6.4.1 Factor Analysis

Factor analysis was utilised to reduce the number of items for each construct, and the overall number of constructs, so that there is a minimal overlap in measurement items, which in turn can then be used in other analysis, such as multiple regression. These tests require certain characteristics of the measurement items to be satisfied.

Hence, factor analysis becomes necessary in this study because it helps to corroborate the structure of the model and to ascertain the convergent and discriminant validities of the integrated e-Government model. Therefore, factor analysis was conducted in this study using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Two statistical measures generated by SPSS were used for factorability of the data: Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1974). The Bartlett's test of sphericity should be significant ($p < .05$) for the factor analysis to be considered appropriate. The KMO index ranges from 0 to 1, with 0.6 suggested as the minimum value for a good factor analysis (Tabachnick & Fidell, 2013).

(i) Exploratory Factor Analysis (EFA)

Prior to performing the EFA, the dataset was checked to confirm if it was adequate for factor analysis. Hence, both the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test of sphericity were used to that effect. The KMO value was 0.671 (table 6.5) which shows the responses given by the sample were acceptable. This concurs with Kaiser's (1974) recommendations of 0.5 to be the minimum value barely accepted. The Bartlett's test

which has a sphericity result of $p < 0.001$ indicates the correlation matrix is not an identity matrix. Hence, the dataset was considered adequate for factor analysis (Field, 2009).

Table 6.5: Results of the KMO and Bartlett's Test

| KMO and Bartlett's Test | | |
|---|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | | 0.671 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 486.219 |
| | Df | 15 |
| | Sig. (p -value) | 0.000 |

The 61 items in the seven constructs (one dependent and six independent variables) which constitute part of the integrated e-Government framework were entered for factor analysis in SPSS version 22 and only items with good factor loadings (above 0.5) were retained (appendix 6). The constructs and their corresponding items before and after factor analysis are presented in table 6.6, showing twenty-one items in seven constructs that are adequately loaded. The codes that the items represent were earlier defined in tables 4.4 to 4.8 (chapter four).

Table 6.6: Items in the Constructs before and after Factor Analysis

| Constructs | Items Before Factor Analysis | Items Deleted from the Constructs | Items Retained in the Constructs |
|---|---|---|----------------------------------|
| 1. Technological Factor (TF) | TF1, TF2, TF3, TF4, TF5 | TF1, TF4 | TF2, TF3, TF5 |
| 2. Organisational Factors (OF) | OF1, OF2, OF3, OF4, OF5 | OF2, OF4, OF5 | OF1, OF3 |
| 3. Environmental Factors (EF) | RP1, RP2, RP3, RP4, CA1, CA2, CA3, CA4, CA5 | RP1, RP2, RP3, RP4, CA1 | CA2, CA3, CA4, CA5 |
| 4. Perceived Benefits (PBen) | FB1, FB2, OB1, OB2, OB3, OB4, TeB1, TeB2, TeB3, OBe1, OBe2, OBe3, OBe4, OBe5, OBe6, SP1, SP2, SP3, SP4, SP5 | OB1, OB2, OB3, OB4, TeB1, TeB2, TeB3, OBe3, OBe5, OBe6, SP1, SP2, SP3, SP4, SP5 | FB1, FB2, OBe1, OBe2, OBe4 |
| 5. Perceived Barriers (PBar) | TB1, TB2, TB3, TB4, PB1, PB2, PB3, SB1, SB2, SB3, SB4 | TB1, TB2, PB1, PB2, PB3, SB1, SB2, SB3, SB4 | TB3, TB4 |
| 6. Perceived Risks (PR) | PR1, PR2, PR3, PR4, PR5, PR6 | PR1, PR2, PR3, PR6 | PR4, PR5 |
| 7. Integrated e-Government Framework (IntF) | IF1, IF2, IF3, IF4, IF5 | IF4, IF5 | IF1, IF2, IF3 |
| Total | 61 | 40 | 21 |

TF, OF, EF, PBen, PBar and PR are independent variables while IntF is the only dependent variable.

But, there were other factors such as the major stakeholders and their activities which influence integrated e-Government implementation that have been identified in the qualitative findings in chapter five that constitute part of the model. Therefore, the findings from the quantitative analysis in this chapter will be consolidated with the qualitative findings in chapter five to validate the proposed framework.

Furthermore, component matrix which is another data reduction method was used to further determine the constructs (factors) to extract. Table 6.7 shows factor loadings for the six independent constructs were adequately loaded above 0.50.

Table 6.7: Component Matrix^a

| | Component |
|------|------------------|
| | 1 |
| TF | 0.693 |
| OF | 0.585 |
| EF | 0.712 |
| PBen | 0.801 |
| PBar | 0.723 |
| PR | 0.554 |

Extraction Method: Principal Component Analysis
a. 1 components extracted.

The table also displayed at the footnote one component was extracted. The total variance explained table (table 6.8) was used to determine the components to be extracted. These are components with an eigenvalue of 1 or more (Pallant, 2011). From table 6.8, component 1 (technological factors) was the only one with an eigenvalue of 2.801 to be extracted, and explains a total of 46.677 per cent of the variance.

Table 6.8: Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.801 | 46.677 | 46.677 | 2.801 | 46.677 | 46.677 |
| 2 | 0.973 | 16.224 | 62.901 | | | |
| 3 | 0.833 | 13.886 | 76.787 | | | |
| 4 | 0.667 | 11.115 | 87.902 | | | |
| 5 | 0.452 | 7.542 | 95.440 | | | |
| 6 | 0.273 | 4.557 | 100 | | | |

Extraction Method: Principal Component Analysis.

But, the result of the factor analysis shows that all the items in the constructs were adequately loaded above 0.5 (appendix 6). Additionally, findings from the qualitative analysis showed that technological factors (component to extract) play an important role in developing an integrated e-Government framework. Hence, no construct was extracted, and the six independent constructs were retained.

(ii) Confirmatory Factor Analysis- Measurement Theory

The SEM technique was used to test or confirm the pre-specified relationships. The CFA was performed in AMOS 22. SEM consists of a series of statistical methods that allow complex relationships between independent variables (TF, OF, EF, PBen, PBar and PR) and a dependent variable integrated e-Government framework (IntF). SEM is rooted in path analysis invented by Sewall Wright, a geneticist (Wright, 1921), and it is still normal to start a SEM analysis by drawing a path diagram as shown in figures 6.1 to 6.3.

The path diagram consists of circles and boxes connected by arrows. Aligning with Wright's notation, observed (or measured) variables were represented with either a square box or rectangle (TF2, TF3, TF5, OF1, OF3, CA2, CA3, CA4, CA5, FB1, FB2, OBe1, OBe2, OBe4, TB3, TB4, PR4 and PR5), and unmeasured or latent variables by a circle or ellipse (IF1, IF2 and IF3). Paths or single headed arrows were used to define the causal relationships in the model with the variable at the tail of the arrow. Hence, the SEM diagrams were drawn for the reflections of the data set details where necessary. The first measurement model shows poor model fit indices for thirty-two items used, out of the sixty-one (61) items in the seven construct. This resulted in cross-loading among items from different constructs as shown in figure 6.1.

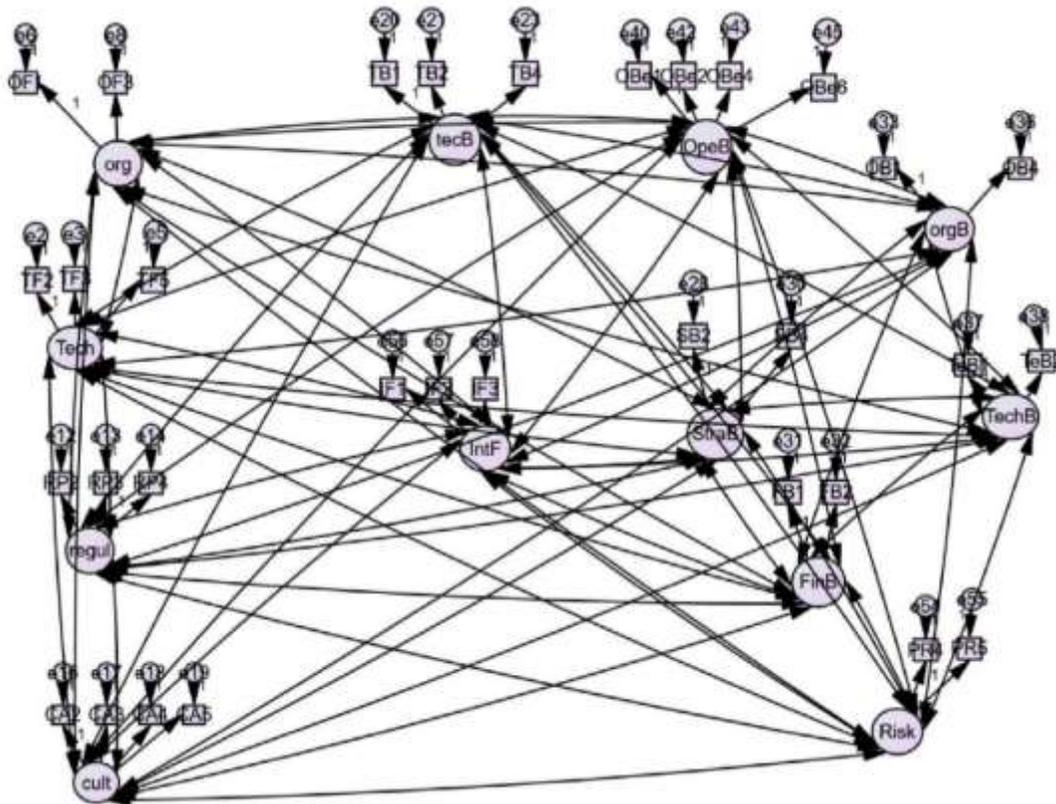


Figure 6.1: Cross-loading among 32 Items from Different Constructs before Deletion

The examination of modification indices and the matrix of residual moments guided the refinement of the model. The model fit indices followed Kline (2010) fit indices threshold stated in table 6.9.

Table 6.9: Common Fit Indices Cut off

| | | |
|-------------------------|--------------|-------------|
| Chi-Square/Df (CMIN/Df) | < 3 | G; |
| | < 5 | Permissible |
| CFI | > 9.5 | Great; |
| | 0.90 | Traditional |
| AGFI | 0.80 | Good |
| TLI | 0.90 | Good |
| RMSEA | < .05 | Good |
| | 0.05 to 0.10 | Moderate |

The model showed satisfactory fit indices: Chi-square = 433.338; Degrees of freedom = 161; Probability level = 0.000; CMIN/DF = 2.692; AGFI = .821; CFI = .916; TLI = .891; RMSEA = .076.

All modification indices above 15 were given much attention. The standardised residuals ranging between $|2.5|$ and $|4.0|$ suggested that urgent decisions have to be taken for these items. Thus, some items were deleted to improve the model. The deleted items (TF1, TF4, OF2, OF4, OF5, RP1, RP2, RP3, RP4, CA1, OB1, OB2, OB3, OB4, TeB1, TeB2, TeB3, OBe3, OBe5, OBe6, SP1, SP2, SP3, SP4, SP5, TB1, TB2, PB1, PB2, PB3, SB1, SB2, SB3, SB4, PR1, PR2, PR3, PR6, IF4 and IF5) match with the 40 items not adequately loaded in the factor analysis result. The modification indices also suggested that the model should account for the inter-correlation between all the predictors of IntF (Integrated e-Government Framework). Figure 6.2 presents an improved pre-model with (21) items pertaining to the (7) constructs with the quantitative data.

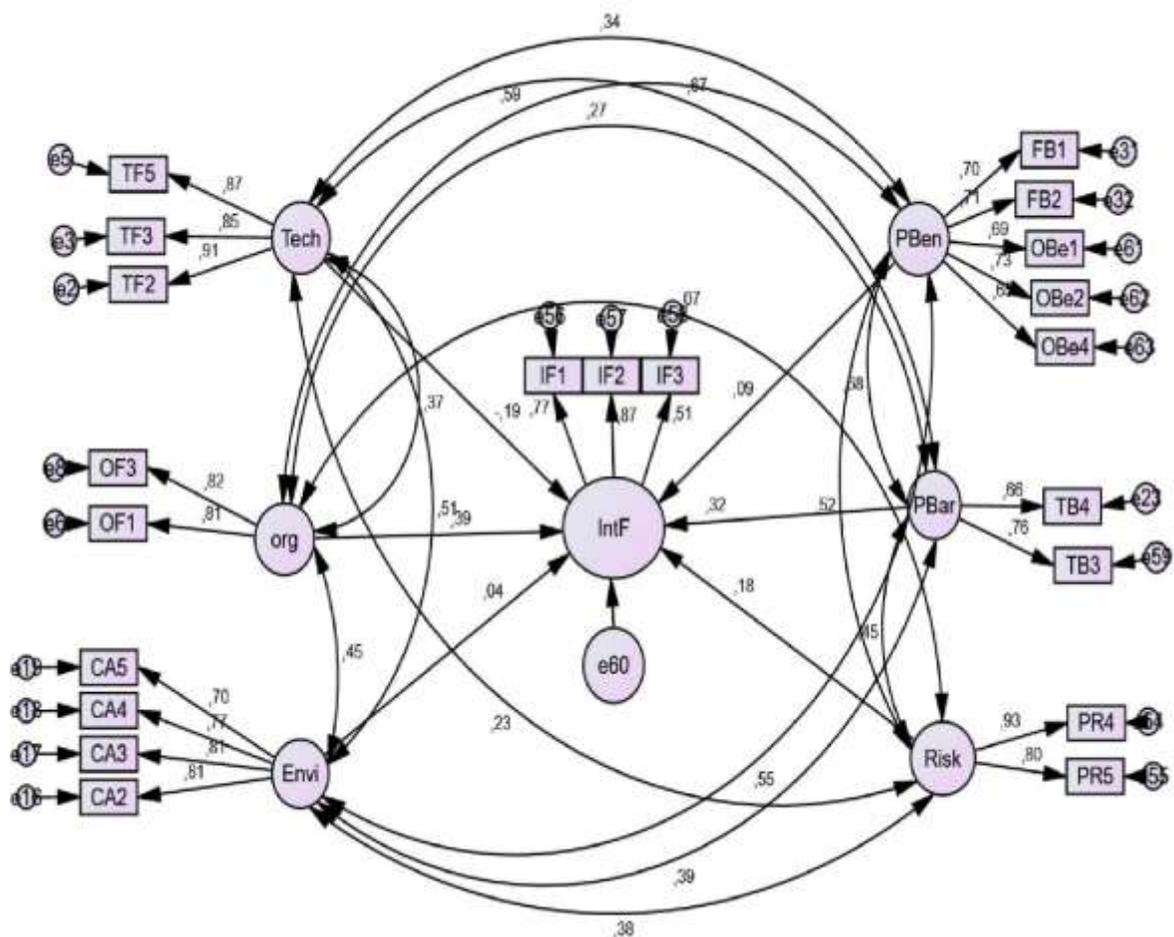


Figure 6.2: Improved Pre-Model after Deletion

6.4.2 Reliability of the Instrument

In order to evaluate the internal consistency of the individual items in the construct, the Cronbach Alpha (α) values were calculated using SPSS version 22. A preliminary survey of 35 sample cases was conducted at the agencies to check the clarity and to test the participants' comprehension which assisted in improving the questionnaires. Hinton, Brownlow, McMurvey and Cozens (2004) recommend four different ranges for reliability points: 0.90 and above (Excellent reliability), 0.70 – 0.90 (High reliability), 0.50 – 0.70 (High moderate reliability) and 0.50 - below (Low reliability). Table 6.10 presents the reliabilities of items in each construct and the overall instruments. The Cronbach Alpha values fall between high and excellent reliability (0.801 - 0.963).

Table 6.10: Reliability of the Instruments

| Constructs | Number of Items | Cronbach's Alpha(α) | Classification of Reliability |
|--|-----------------|------------------------------|-------------------------------|
| Technological Factors (TF) | 3 | 0.907 | Excellent Reliability |
| Organisational Factors (OF) | 2 | 0.799 | High Reliability |
| Environmental Factors (EF) | 4 | 0.855 | High Reliability |
| Perceived Benefits (PBen) | 2 | 0.664 | High Moderate Reliability |
| Perceived Barriers (PBar) | 5 | 0.817 | High Reliability |
| Perceived Risks (PR) | 2 | 0.850 | High Reliability |
| Integrated e-Government Framework (IntF) | 3 | 0.718 | High Reliability |
| Overall reliability of the instruments | 21 | 0.907 | Excellent Reliability |

Sample size: 293

This table shows good reliabilities for all the constructs. According to Field (2009), high alpha values connote that the constructs were consistent internally and that the reliability of similar or same constructs are measured. Therefore, the findings demonstrated that all the Cronbach Alpha values for the research instruments were reliable. This concurs with Dwivedi et al. (2006) which state that higher the Cronbach's Alpha value for the constructs, the higher the reliability used for measuring the same constructs.

6.4.3 Validity of the Instrument

Construct validity empirically describes the degree to which the items in the measuring instrument reflects on the theoretical constructs they are designed to quantify (Bagozzi, Yi & Phillips, 1991). The reason for conducting construct validity in this study is that the inferences deduced from the data would not have been reliable if their validities were not confirmed. Consequently, construct validity is considered to be an essential condition for the development and testing of a theory (Peter, 1981; Alkhatib, 2013). Moreover, construct validity relates to the correctness of the measurement and gives confidence that the items in the construct from the sample are the true representatives of the scores in the population.

According to Hair et al. (2010) there are two types of construct validity's namely, convergent and discriminant. The convergent validity describes the extent at which specific items in the construct shares or converges high proportion of differences in common (resemblance). Whereas, the discriminant validity is the extent at which constructs in an instrument are noticeably distinct from each other. In this study, the two types of construct validity were considered. Factor loading, average variance extracted (AVE) and composite reliability (CR) were used to estimate the convergent validity. The constructs show good factor loadings (all above 0.5) as earlier stated, which agrees with Hair et al. (2010) that high loading on an item or a factor shows their convergence on some common points.

Furthermore, table 6.11 shows the average variance extracted (AVE) for the constructs in which all were above 0.50 (Good AVE for the constructs). AVE which represents the average percentage of variation was used to summarise the measure of convergence of the items that represents a latent construct. Similarly, composite reliability (CR) was used to access the whole measurement model reliability for each of the latent construct within the model.

Table 6.11: Indicators for Convergent and Divergent Validities

| Constructs | Composite Reliability (CR) | Average Variance Extracted (AVE) | Maximum Squared Shared Variance (MSV) |
|------------|----------------------------|----------------------------------|---------------------------------------|
| Risks (PR) | 0.856 | 0.750 | 0.266 |
| Tech (TF) | 0.910 | 0.771 | 0.433 |
| Org (OF) | 0.799 | 0.666 | 0.368 |
| Envi (EF) | 0.857 | 0.600 | 0.256 |
| PBen | 0.830 | 0.710 | 0.490 |
| PBar | 0.672 | 0.508 | 0.490 |
| IntF | 0.766 | 0.533 | 0.300 |

All the constructs have a CR greater than 0.70; except for perceived barriers with a CR of 0.672, but it is still acceptable. The discriminant validity on the other hand which evaluates distinctiveness of a construct from other constructs was determined by comparing maximum squared shared variance (MSV) with average variance extracted (AVE). If MSV is less than AVE ($MSV < AVE$), then there is discriminant validity for all the constructs. Since MSV is less than the AVE for all constructs then there is a discriminant validity for the construct as shown in table 11.

6.4.4 Measurement Model

To further confirm the underlying structure of the scales and the pre-model fitness of the indices of quantitative data used in this study, correlation and model fit indices were used to conduct the test.

Correlations and Model Fit Indices

The measurement model presents the covariate relationship between the predictors and integrated e-Government framework as illustrated in table 6.12. The covariate relationship between the constructs (double-headed arrows) are summarised in the table.

Table 6.12: Covariate Relationships among the Constructs

| Correlations | | | Correlation Coefficient | <i>p-value</i> |
|------------------------------|------|------|-------------------------|----------------|
| IntF | <--> | PBen | 0,474 | *** |
| IntF | <--> | Org | 0,495 | *** |
| IntF | <--> | PBar | 0,459 | *** |
| IntF | <--> | Tech | 0,263 | *** |
| IntF | <--> | Envi | 0,365 | *** |
| IntF | <--> | Risk | 0,367 | *** |
| Inter-predictor correlations | | | Correlation coefficient | <i>p-value</i> |
| Tech | <--> | Org | 0,369 | *** |
| Tech | <--> | Envi | 0,506 | *** |
| Tech | <--> | PBen | 0,352 | *** |
| Tech | <--> | PBar | 0,658 | *** |
| Tech | <--> | Risk | 0,231 | *** |
| Org | <--> | Envi | 0,446 | *** |
| Org | <--> | PBen | 0,399 | *** |
| Org | <--> | PBar | 0,25 | 0,002 |
| Org | <--> | Risk | 0,068 | 0,329 |
| Envi | <--> | PBen | 0,477 | *** |
| Envi | <--> | PBar | 0,378 | *** |
| Envi | <--> | Risk | 0,374 | *** |
| PBar | <--> | PBen | 0,7 | *** |
| PBen | <--> | Risk | 0,516 | *** |
| PBar | <--> | Risk | 0,449 | *** |

*** indicates significance at 0.001 level.

The correlation table is a preliminary analysis of the model with the regression path (single-headed arrows). The first-five rows in the table represents the correlations between the predictors and the dependent variable integrated e-Government framework (IntF). It could be seen from table 6.12, that all the predictors are positive and statistically and significantly correlated to IntF. The inter-play between the predictors also presented statistically significant and positive relationships with the exception of the relationship between org and risk. Figure 6.3 shows the correlation between the predictors (TF, OF, EF, PBen, PBar and PR), integrated e-Government framework (IntF), and the relationship between the constructs,

with the exception of other factors (e.g. major stakeholders and their activities) identified in qualitative findings.

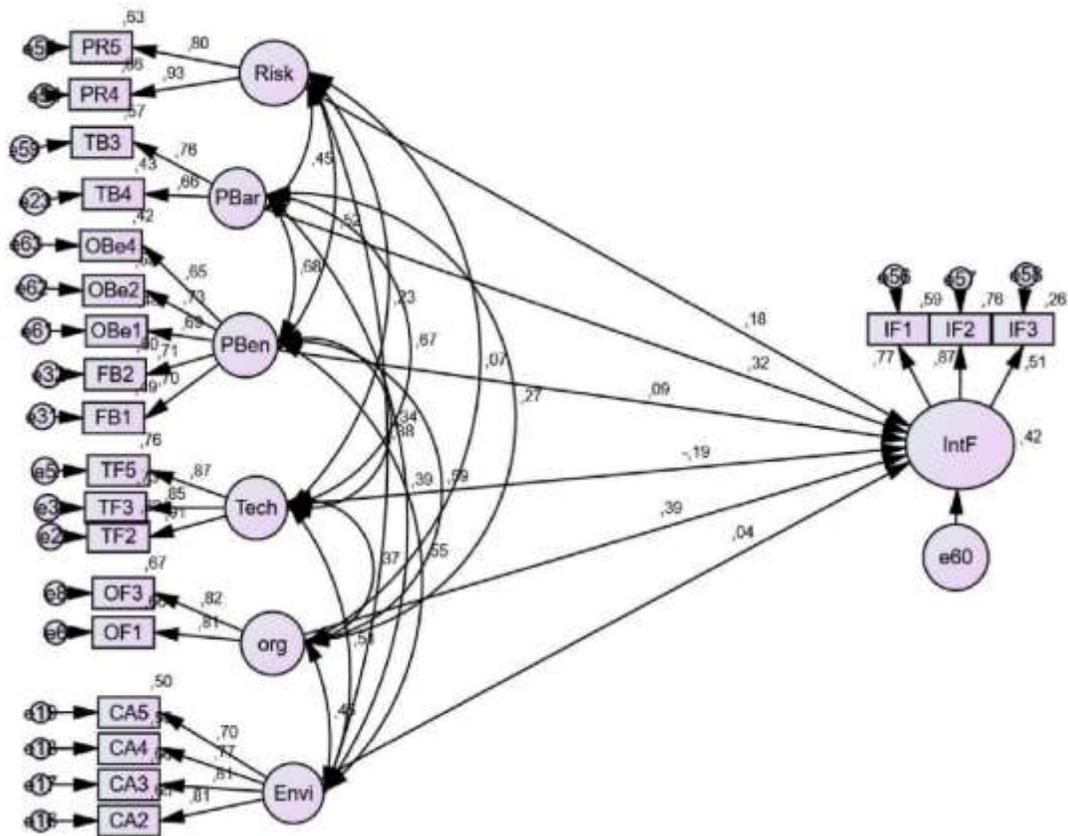


Figure 6.3: Correlations between the Predictors in the Pre-model

Therefore, from table 6.9 the measurement model showed satisfactory fit indices: Chi-square = 433.338; Degrees of freedom = 161; Probability level = 0.000; CMIN/DF = 2.692; AGFI = 0.821; CFI = 0.916; TLI = 0.891; RMSEA = 0.076. Hence, the measurement model retrieved from AMOS version 22 is presented in figure 6.4. In the pre-model, the correlations (double headed arrows) are replaced with the path regression relationships (single headed arrow) between the predictors and IntF. The model (figure 6.4) is considered to be a pre-model because the quantitative findings were not sufficient enough to address the research aim and objectives. Other factors identified in qualitative findings still have to be considered to achieve a full scale model.

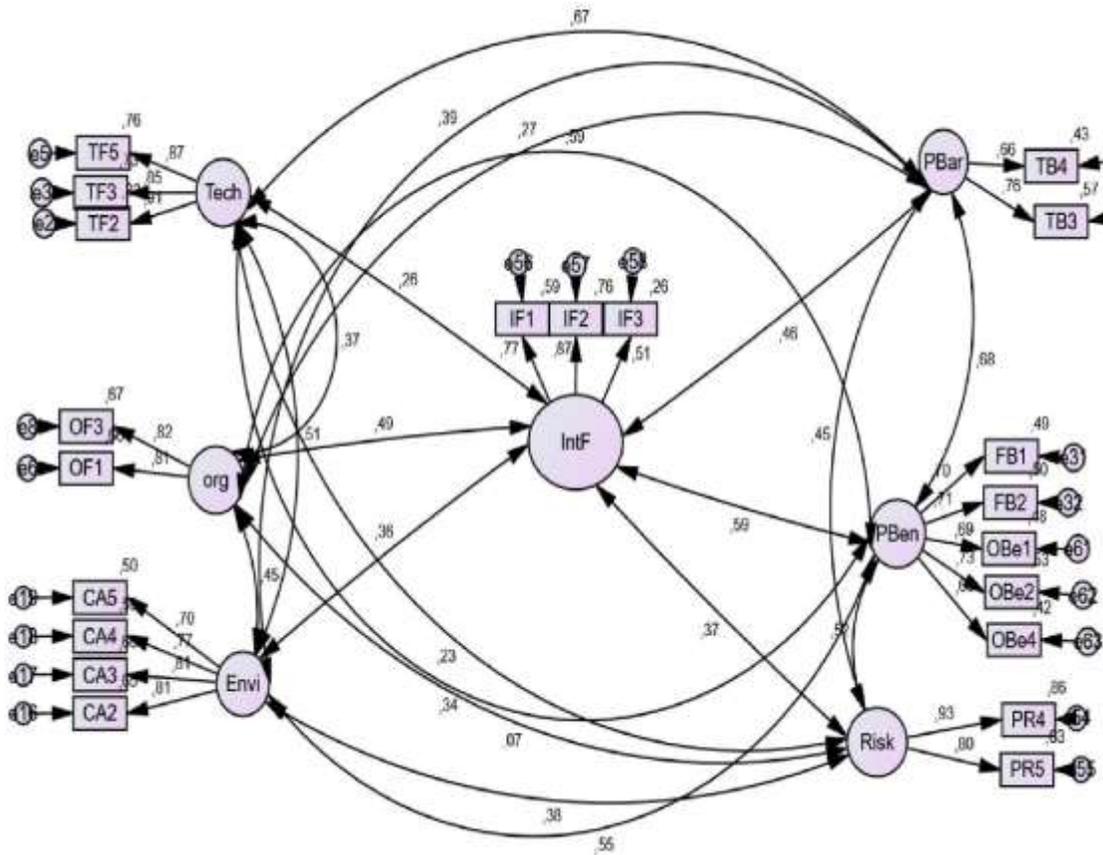


Figure 6.4: Measurement Model (Pre-model)

6.4.5 Multiple Regression Analysis

A further analysis was considered important to corroborate the model. Hence, multiple regression analysis was performed to substantiate the correlation and model fit indices test conducted using AMOS to determine the covariate relationship between the predictors and integrated e-Government framework. The multiple regression test helps to explore the relationship existing between the dependent (continuous) variable and a number of independent predictors or variables which are continuous. Carrying out this test according to Pallant (2011) makes the investigation more ideal for a complex real-life study than laboratory dependent research questions. Hence, multiple regression analysis was achieved to examine the influence or impact of the predictor variables, namely, technological factors (TF), organisational factors (OR), environmental factors (EF), perceived benefits (PBen),

perceived barriers (PBar) and perceived risks (PR) on the intention to implement an integrated e-Government framework.

However, before carrying out the regression analysis, there was the need to check if the data used in the study satisfies some assumptions required for multiple regression. The correlations between the variables in the conceptual framework are provided in table 20. Checking the assumptions from the table, the correlations between each construct and the dependent were not less than 0.3, except for TF (0.252) and PR (0.299) which is fair. This shows that the scales correlate substantially, which concurs with Pallant (2011) that the coefficient between independent and dependent variables should be above 0.3 preferably for the scales to correlate. The construct with a lesser coefficient (0.252) shows that the scales in the technological factors does not relate well. But the scales in the factor has good factor loadings (TF1=0.759, TF2= 0.683, TF3= 0.687), hence were retained (appendix 6).

Another assumption considered was that the correlation between each of the predictors (independent) variables were not too high. Tabachnick and Fidell (2013) recommend that coefficients of not more than 0.7 are acceptable. It is apparent from table 6.13, that the correlation between each independent construct is less than 0.7. Hence, all the variables were retained and multiple linear regression analysis was performed with the items or observable variables as the predictor variables responsible for the successful implementation of integrated e-Government implementation.

Table 6.13: Correlations

| | | TF | OF | EF | PBar | PBen | PR | IntF |
|------|---------------------|---------|---------|---------|---------|---------|---------|---------|
| TF | Pearson Correlation | 1 | 0.318** | 0.448** | 0.530** | 0.305** | 0.207** | 0.252** |
| | Sig. (2-tailed) | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | N | 293 | 293 | 293 | 293 | 293 | 293 | 293 |
| OF | Pearson Correlation | 0.318** | 1 | 0.369** | 0.216** | 0.473** | 0.066 | 0.377** |
| | Sig. (2-tailed) | 0.000 | | 0.000 | 0.000 | 0.000 | 0.263 | 0.000 |
| | N | 293 | 293 | 293 | 293 | 293 | 293 | 293 |
| EF | Pearson Correlation | 0.448** | 0.369** | 1 | 0.295** | 0.465** | 0.306** | 0.340** |
| | Sig. (2-tailed) | 0.000 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 |
| | N | 293 | 293 | 293 | 293 | 293 | 293 | 293 |
| PBar | Pearson Correlation | 0.530** | 0.216** | 0.295** | 1 | 0.519** | 0.331** | 0.299** |
| | Sig. (2-tailed) | 0.000 | 0.000 | 0.000 | | 0.000 | 0.000 | 0.000 |
| | N | 293 | 293 | 293 | 293 | 293 | 293 | 293 |
| PBen | Pearson Correlation | 0.305** | 0.473** | 0.465** | 0.519** | 1 | .447** | 0.475** |
| | Sig. (2-tailed) | 0.000 | 0.000 | 0.000 | 0.000 | | 0.000 | 0.000 |
| | N | 293 | 293 | 293 | 293 | 293 | 293 | 293 |
| PR | Pearson Correlation | 0.207** | 0.066 | 0.306** | 0.331** | 0.447** | 1 | 0.346** |
| | Sig. (2-tailed) | 0.000 | 0.263 | 0.000 | 0.000 | 0.000 | | 0.000 |
| | N | 293 | 293 | 293 | 293 | 293 | 293 | 293 |
| IntF | Pearson Correlation | 0.252** | 0.377** | 0.340** | 0.299** | 0.475** | 0.346** | 1 |
| | Sig. (2-tailed) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| | N | 293 | 293 | 293 | 293 | 293 | 293 | 293 |

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

(i) Model Fitness

Table 6.14 presents the model summary which provides the R , R^2 , adjusted R^2 and standard error estimate. The “R” represents the R value (Multiple Correlation Coefficient) which determines the prediction quality of the dependent variable. For this situation, IntF is 0.545^a indicating that the level of prediction is 54.5 per cent. The R square which represent R^2 (Coefficient of Determination) is 0.297, which indicates that the predictors explain up to 29.7 per cent of the variance of the dependent variable. The low value of R^2 may be seen as evidence that the fit is not good enough for the model tested, though it makes a statistically significant contribution as indicated by the Sig. change value (.000) in table 6.15.

Table 6.14: Model Summary^b

| Model | R | R Square | Adjusted R Square | Standard Error of the Estimate |
|-------|--------------------|----------|-------------------|--------------------------------|
| 1 | 0.545 ^a | 0.297 | 0.282 | 0.47261 |

a. Predictors: (Constant), PR, OF, TF, EF, PBar, PBen

b. Dependent Variable: IntF

(ii) Statistical Significance

The *F*-ratio shown in table 6.15 tests if the overall regression model fit is a good one for the data. Table 6.15 depicts the independent variables to be statistically significant to predict the dependent variable, $F(6, 286) = 20.101, p < 0.0005$ (This makes the regression model a good fit for the data).

Table 6.15: ANOVA^a

| Model | | Sum of Squares | Df | Mean Square | <i>F Ratio</i> | Sig. |
|-------|------------|----------------|-----|-------------|----------------|--------------------|
| 1 | Regression | 26.938 | 6 | 4.490 | 20.101 | 0.000 ^b |
| | Residual | 63.880 | 286 | 0.223 | | |
| | Total | 90.818 | 292 | | | |

a. Dependent Variable: IntF

b. Predictors: (Constant), PR, OF, TF, EF, PBar, PBen

(iii) Co-efficient Table

The standard co-efficient column in table 6.16 suggests that perceived benefits (PBen) has the highest influence in the variation of the implemented framework. This is followed by organisational factors, and the least is the technological factors (TF).

Table 6.16: Coefficients

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations Partial | Collinearity Statistics | |
|------------|-----------------------------|------------|---------------------------|-------|-------|----------------------|-------------------------|-------|
| | B | Std. Error | Beta | | | | Tolerance | VIF |
| (Constant) | 1.724 | 0.232 | | 7.418 | 0.000 | | | |
| TF | 0.014 | 0.042 | 0.021 | 0.331 | 0.741 | 0.020 | 0.594 | 1.683 |
| OF | 0.173 | 0.048 | 0.214 | 3.567 | 0.000 | 0.206 | 0.685 | 1.460 |
| 1 EF | 0.059 | 0.048 | 0.076 | 1.239 | 0.216 | 0.073 | 0.651 | 1.537 |
| PBar | 0.024 | 0.042 | 0.038 | 0.571 | 0.568 | 0.034 | 0.555 | 1.800 |
| PBen | 0.213 | 0.068 | 0.227 | 3.141 | 0.002 | 0.183 | 0.471 | 2.122 |
| PR | 0.108 | 0.033 | 0.190 | 3.304 | 0.001 | 0.192 | 0.741 | 1.349 |

a. Dependent Variable: IntF

Summarily, multiple regression was conducted to determine how well the constructs, technological factors, organisational factors, environmental factors, perceived barriers, perceived benefits and perceived risks predict the acceptance of the integrated framework (IntF). These constructs together statistically predict IntF, $F(6, 292) = 20.101, p < 0.0005, R^2 = 0.297$. Therefore, the six independent constructs with eighteen (18) items and one dependent construct with three (3) items were further analysed.

6.5 Category 1: Analysis of the Constructs Influencing Integrated e-Government Implementation

This section analyses the key constructs/factors (technological, organisational, environmental, perceived barriers, benefits and risks) influencing the implementation of the integrated e-Government in this study. The major stakeholders and their activities were addressed using only qualitative data. However, factor analysis was conducted to screen the variables as earlier achieved in this chapter.

6.5.1 Technological Factors

Respondents were requested to rate their levels of agreement regarding the influence of technological factors on integrated e-Government implementation in their agencies. Table 6.17 presents that the majority of the respondents from the five agencies (LASPPA, LABSCA, LASURA, LSSGO and LIRS) agreed that technological factors which constitute

three items (TF2= 40.6 per cent, TF3= 50.5 per cent and TF5= 42.3 per cent) influence integrated e-Government implementation in their agencies. This is followed by a strongly agree category (TF2=38 per cent, TF3=30.4 per cent and TF5=40.3 per cent). Only a minority of the participants from the agencies either ‘strongly disagreed’ or ‘disagreed’ with the statement.

Table 6.17: Technological Factors (N=293)

| Items | Description | Agency | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-------|--|--------|-------------------|----------|-----------|------------|----------------|
| TF2 | Integrated framework across government agencies (technological interoperability) will influence integrated e-Government implementation | 1 | 1(1.7%) | 7(12.1%) | 3(5.5%) | 26(44.8%) | 21(36.2%) |
| | | 2 | 1(1.8%) | 7(12.7%) | 2(3.6%) | 19(34.5%) | 26(47.3%) |
| | | 3 | - | 6(9.8%) | 4(6.6%) | 14(22.9%) | 37(60.7%) |
| | | 4 | - | 5(8.3%) | 10(16.7%) | 33(55%) | 12(20%) |
| | | 5 | - | - | 16(27%) | 27(45.7%) | 16(27%) |
| | | Total | 2(0.7%) | 25(8.5%) | 33(11.3%) | 119(40.6%) | 112(38%) |
| TF3 | Technical support for design, implementation and operations will influence integrated e-Government implementation | 1 | 1(1.7%) | 5(8.6%) | 4(6.9%) | 39(67.2%) | 9(15.5%) |
| | | 2 | 1(1.8%) | 2(3.6%) | 10(18.2%) | 25(45.5%) | 17(30.9%) |
| | | 3 | 1(1.6%) | 2(3.3%) | 5(8.2%) | 15(24.6%) | 38(62.3%) |
| | | 4 | 2(3.3%) | 3(5%) | 7(11.7%) | 38(63.3%) | 10(16.7%) |
| | | 5 | - | - | 13(22%) | 31(52.5%) | 15(25.4%) |
| | | Total | 5(2.4%) | 12(4.1%) | 39(13.3%) | 148(50.5%) | 89(30.4%) |
| TF5 | Availability of various communication channels such as mobile devices and Personal Computers (PCs) to access government services will influence integrated e-Government implementation | 1 | 2(3.5%) | 2(3.5%) | 6(10.3%) | 23(39.6%) | 25(43.1%) |
| | | 2 | 5(9.1%) | 3(5.5%) | 1(1.8%) | 34(61.8%) | 12(21.8%) |
| | | 3 | - | 6(9.8%) | 2(3.3%) | 13(21.3%) | 40(65.6%) |
| | | 4 | - | 8(13.3%) | 7(11.7%) | 35(58.3%) | 10(16.7%) |
| | | 5 | - | - | 9(15.3%) | 19(32.2%) | 31(52.5%) |
| | | Total | 5(1.7%) | 19(6.5%) | 25(8.5%) | 124(42.3%) | 118(40.3%) |

6.5.2 Organisational Factors

The respondents rated their levels of agreement to the items that measured organisational factors influencing the implementation of integrated e-Government system in their agencies. According to the responses shown in table 6.18, the majority of the respondents from all the agencies agreed (OF1=49.8 per cent, and OF3=55.3 per cent) that environmental factors will influence the implementation of the initiative in their agencies. This is seconded by the strongly agree category (OF1=40.3 per cent, and OF3=36.9 per cent). Only a minority of the participants from all the agencies either ‘strongly disagreed’ or ‘disagreed’ to the statement.

Table 6.18: Organisational Factors (N=293)

| Items | Description | Agency | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-------|--|--------|-------------------|----------|----------|------------|----------------|
| OF1 | Top management support | 1 | - | - | 1(1.7%) | 32(55.2%) | 25(43.1%) |
| | | 2 | - | - | 2(3.6%) | 37(67.7%) | 16(29.1%) |
| | | 3 | - | - | 2(3.3%) | 36(59%) | 23(37.7%) |
| | | 4 | 3(5%) | 7(11.7%) | 8(13.3%) | 18(30%) | 24(40%) |
| | | 5 | - | - | 6(10.2%) | 23(39%) | 30(50.8%) |
| | | Total | 3(1%) | 7(2.4%) | 19(6.5%) | 146(49.8%) | 118(40.3%) |
| OF3 | Skills and strategies to implement integrated e-government | 1 | - | - | - | 31(53.4%) | 27(46.6%) |
| | | 2 | - | - | 2(3.6%) | 39(70.9%) | 14(25.5%) |
| | | 3 | - | - | 1(1.6%) | 52(85.3%) | 8(13.1%) |
| | | 4 | 5(8.3%) | 2(3.3%) | 6(10%) | 19(31.7%) | 28(46.7%) |
| | | 5 | - | 1(1.7%) | 6(10.2%) | 21(35.6%) | 31(52.5%) |
| | | Total | 5(1.7%) | 3(1.0%) | 15(5.1%) | 162(55.3%) | 108(36.9%) |

6.5.3 Environmental Factors

The responses were examined for their agreement of environmental factors’ influence on the implementation of the integrated e-Government system in their agencies. According to the responses presented in table 6.19, a majority of the respondents from all the agencies either agreed or strongly agreed that the cultural aspects - security and trust (CA3= 84.0per cent), being aware of online services (CA2 = 92.5), the digital divide among its citizen (CA4 = 83.6) and e-Readiness (CA5=75.4) will influence the implementation of the initiative in their

agencies. Only a minority of the participants from all the agencies either ‘strongly disagreed’ or ‘disagreed’ to the statements.

Table 6.19: Environmental Factors (N=293)

| Items | Description | Agency | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-------------------------|---|--------|-------------------|-----------|-----------|------------|----------------|
| Cultural Aspects | | | | | | | |
| CA2 | Awareness of online service delivery | 1 | - | 2(3.5%) | - | 32(55.2%) | 24(41.4%) |
| | | 2 | - | 9(16.4%) | 2(3.6%) | 36(65.4%) | 18(32.7%) |
| | | 3 | - | - | 2(3.3%) | 21(34.4%) | 38(62.3%) |
| | | 4 | 3(5%) | 1(1.7%) | 6(10%) | 42(70%) | 8(13.3%) |
| | | 5 | - | 1(1.7%) | 6(10.2%) | 27(45.8%) | 25(42.4%) |
| | | Total | 3(1.0%) | 13(4.4%) | 16(5.5%) | 158(53.9%) | 113(38.6%) |
| CA3 | Security and privacy | 1 | - | 1(1.7%) | 8(13.8%) | 13(22.4%) | 36(62.1%) |
| | | 2 | - | - | 11(20%) | 22(40%) | 22(40%) |
| | | 3 | - | 1(1.6%) | 3(4.9%) | 18(29.5%) | 39(63.9%) |
| | | 4 | 2(3.3%) | 4(6.7%) | 7(11.7%) | 35(58.3%) | 12(20%) |
| | | 5 | 1(1.7%) | - | 9(15.3%) | 20(33.9%) | 29(49.2%) |
| | | Total | 3(1%) | 6(2.1%) | 38(13%) | 108(36.9%) | 138(47.1%) |
| CA4 | Digital divide (Social term referring to the difference between those who have access to the internet and those who do not) | 1 | - | 1(1.7%) | 2(3.4%) | 48(82.6%) | 7(12.1%) |
| | | 2 | - | 14(25.5%) | 1(1.8%) | 19(34.5%) | 21(38.2%) |
| | | 3 | - | 1(1.6%) | 2(3.3%) | 25(41%) | 33(54.1%) |
| | | 4 | 2(3.3%) | 2(3.3%) | 11(18.3%) | 39(65%) | 6(10%) |
| | | 5 | - | - | 12(20.3%) | 30(50.9%) | 17(28.8%) |
| | | Total | 2(0.7%) | 18(6.1%) | 28(9.6%) | 161(54.9%) | 84(28.7%) |
| CA5 | e-Readiness (e-readiness means the ability of a community to use ICT) | 1 | - | 1(1.7%) | 6(10.3%) | 25(43.1%) | 26(44.8%) |
| | | 2 | - | 16(29.1%) | 6(10.9%) | 23(41.8%) | 10(18.2%) |
| | | 3 | 1(1.6%) | - | 8(13.1%) | 18(29.5%) | 34(55.7%) |
| | | 4 | 2(3.3%) | 4(6.7%) | 15(25%) | 36(60%) | 3(5%) |
| | | 5 | - | 2(3.4%) | 11(18.6%) | 24(40.7%) | 22(37.3%) |
| | | Total | 3(1%) | 23(7.8%) | 46(15.7%) | 126(43%) | 95(32.4%) |

6.5.4 Perceived Benefits

Combining the agree and strongly agree ratings, it is clear that there is strong support for some of the items described in table 6.20. From table 6.20, it can be gleaned that there was strong agreement for the items, FB1 and FB2 that measured financial benefits (83.1 per cent

and 88 per cent respectively) that would influence their participation in an integrated e-government system. Similarly, there was overwhelming agreement for items, OB1, OB2 and OB4, that measured operational benefits (94.9 per cent, 90.4 per cent and 91.4 per cent respectively) that would influence their participation in the integrated e-Government implementation.

Table 6.20: Perceived Benefits (N=293)

| Items | Description | Agency | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-----------------------------|--|--------|-------------------|----------|-----------|------------|----------------|
| Financial Benefits | | | | | | | |
| FB1 | Reduction in cost of delivering government services and information | 1 | 1(1.7%) | 7(%) | 3(12.1%) | 26(44.8%) | 21(36.2%) |
| | | 2 | 2(3.6%) | 4(7.3%) | - | 17(30.9%) | 32(5.8%) |
| | | 3 | 1(1.6%) | - | 2(3.3%) | 7(12.7%) | 51(83.6%) |
| | | 4 | 2(3.3%) | 5(8.3%) | 8(13.3%) | 35(58.3%) | 10(16.7%) |
| | | 5 | - | 3(5.1%) | 8(13.6%) | 23(39%) | 25(42.4%) |
| | | Total | 2.16(%) | 19(6.5%) | 21(7.2%) | 108(36.9%) | 139(46.4%) |
| FB2 | Reduction in time and cost of content development | 1 | - | 1(1.7%) | 1(1.7%) | 22(37.9%) | 34(58.6%) |
| | | 2 | 2(3.6%) | - | 2(3.6%) | 18(32.7%) | 33(60%) |
| | | 3 | 1(1.6%) | - | 3(4.9%) | 9(14.8%) | 48(78.7%) |
| | | 4 | 3(5%) | 3(5%) | 7(11.7%) | 38(63.3%) | 9(15%) |
| | | 5 | - | 2(3.4%) | 10(16.9%) | 28(47.5%) | 19(32.2%) |
| | | Total | 6(2.1%) | 6(2.1%) | 23(7.9%) | 115(39.2%) | 143(48.8%) |
| Operational Benefits | | | | | | | |
| OBe 1 | Quicker response and processing of customers' needs and expectations | 1 | - | - | - | 14(24.1%) | 44(75.9%) |
| | | 2 | - | - | 2(3.6%) | 23(41.8%) | 30(54.6%) |
| | | 3 | - | 1(1.6%) | - | 40(65.6%) | 20(32.8%) |
| | | 4 | 2(3.3%) | 3(5%) | 4(6.7%) | 37(61.7%) | 14(23.3%) |
| | | 5 | - | - | 3(5.1%) | 26(44.1%) | 30(50.8%) |
| | | Total | 0.7(%) | 4(1.4%) | 9(3.1%) | 140(47.8%) | 138(47.1%) |
| OBe 2 | Increase in the productivity of governmental agencies services | 1 | - | 2(3.5%) | 1(1.7%) | 24(41.4%) | 32(55.2%) |
| | | 2 | - | 1(1.8%) | 1(1.8%) | 39(70.9%) | 14(25.5%) |
| | | 3 | - | - | 8(13.1%) | 32(52.5%) | 21(34.4%) |
| | | 4 | 2(3.3%) | 4(6.7%) | 8(13.3%) | 36(60%) | 10(16.7%) |
| | | 5 | - | - | 2(3.4%) | 24(40.7%) | 33(55.9%) |
| | | Total | 2(0.7%) | 7(2.4%) | 20(6.8%) | 155(52.9%) | 110(37.5%) |
| OBe 4 | Provides feedback mechanism | 1 | - | - | 3(5.2%) | 30(51.7%) | 25(43.1%) |
| | | 2 | - | - | - | 41(74.6%) | 14(25.4%) |
| | | 3 | - | - | 1(1.6%) | 35(57.4%) | 25(41%) |
| | | 4 | 1(1.7%) | 4(6.7%) | 11(18.3%) | 37(61.7%) | 7(11.7%) |
| | | 5 | - | 1(1.7%) | 4(6.7%) | 25(42.4%) | 29(49.2%) |
| | | Total | 1(0.3%) | 5(1.7%) | 19(6.5%) | 168(57.3%) | 100(34.1%) |

6.5.5 Perceived Barriers

The respondents were asked to specify their agreement that the perceived barriers will affect the implementation of an integrated e-Government system in their agencies. According to the responses shown in table 6.21 the majority of the respondents from all the agencies strongly agreed (TB3= 42.3 per cent and TB4= 41 per cent) that the technical aspect of perceived barriers would affect the implementation of the system. This was followed by the agreed category (TB3= 35.8 per cent and TB4= 39.6 per cent). Whereas the minority of the participants indicated either ‘strongly disagreed’ or ‘disagreed’ to the statement.

Table 6.21: Perceived Barriers (N=293)

| Items | Description | Agency | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-------|--|--------|-------------------|----------|-----------|------------|----------------|
| | Technical Barriers | | | | | | |
| TB3 | Lack of multi-communication channels such as mobile phones, digital TVs and Personal Computers (PCs) to access government services | 1 | - | 1(1.7%) | 15(25.9) | 26(44.8%) | 10(17.2%) |
| | | 2 | 3(5.4%) | 4(7.3%) | 4(7.3%) | 25(45.5%) | 19(34.5%) |
| | | 3 | 1(1.6%) | 3(4.9%) | 1(1.6%) | 4(6.6%) | 52(85.3%) |
| | | 4 | 3(5%) | 4(6.7%) | 9(15%) | 24(40%) | 20(33.3%) |
| | | 5 | 1(1.7%) | - | 9(15.2%) | 26(44.1%) | 23(39%) |
| | | Total | 8(2.7%) | 12(4.1%) | 38(13%) | 105(35.8%) | 124(42.3%) |
| TB4 | Lack of reliable power supply | 1 | 4(6.9%) | 2(3.5%) | 4(6.9%) | 14(24.1%) | 34(58.6%) |
| | | 2 | 5(9.1%) | - | 3(5.4%) | 31(56.4%) | 16(29.1%) |
| | | 3 | - | 1(1.6%) | 5(8.2%) | 32(58.2%) | 23(37.7%) |
| | | 4 | 4(6.7%) | 3(5%) | 10(16.7%) | 14(23.3%) | 29(48.3%) |
| | | 5 | 3(5.1%) | 7(11.9%) | 6(10.2%) | 25(42.4%) | 18(30.5%) |
| | | Total | 16(5.4%) | 13(4.4%) | 28(9.6%) | 116(39.6%) | 120(41%) |

6.5.6 Perceived Risks

The outcomes in table 6.22 reveal that majority of the participants in the five agencies agreed that cyber-crime and threats (47.1 per cent and 58.4 per cent), which are forms of perceived risks could emanate from the implementation of integrated e-Government in their agencies. This was seconded by those who strongly agreed with 35.8 per cent for cyber-crime and 19.1 per cent for the threats. However, a small number of the participants indicated either ‘strongly

disagreed’ or ‘disagreed’ to the statement, followed by a few respondents who selected neutral.

Table 6.22: Perceived Risks (N=293)

| Items | Description | Agency | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-------|--|--------|-------------------|-----------|------------|-------------|----------------|
| PR4 | Cyber-crime such as crackers and hackers | 1 | - | 1(1.7%) | 3(5.2%) | 40(69%) | 14(24.1%) |
| | | 2 | 1(1.8%) | 2(3.6%) | 4(7.3%) | 36(65.5%) | 12(21.8%) |
| | | 3 | - | - | 2(3.3%) | 6(9.8%) | 53(86.9%) |
| | | 4 | 16(26.7%) | 4(6.7%) | 8(13.3%) | 20(33.3%) | 12(20%) |
| | | 5 | 1(1.7%) | 1(1.7%) | 7(11.9%) | 36(61.0%) | 14(23.7%) |
| | | Total | 18(6.1%) | 8(2.7%) | 24(8.2%) | 138(47.1%) | 105(35.8%) |
| PR5 | Threats from trojans, worms and other forms of viruses | 1 | 1(1.7%) | 2(3.5%) | 14(24.1%) | 32(55.2%) | 9(15.5%) |
| | | 2 | 2(3.6%) | 4(7.3%) | 4(7.3%) | 34(61.8%) | 11(20%) |
| | | 3 | - | - | - | 50(82%) | 11(18%) |
| | | 4 | 17(28.3%) | 7(11.7%) | 4(6.7%) | 23(38.3%) | 9(15%) |
| | | 5 | 1(1.7%) | 2(3.4%) | 8(13.6%) | 32(54.2%) | 16(27.1%) |
| | | Total | 21(7.2%) | 15 (5.1%) | 30 (10.2%) | 171 (58.4%) | 56 (19.1%) |

6.6 Category 2: Implemented Integrated e-Government Framework

From table 6.23, the ‘agree’ classification has the highest frequency (IF1= 62.8 per cent, IF2= 65.2 per cent and IF3= 44.7 per cent) followed by strongly agreed (IF1= 30.4 per cent, IF2= 25.6 per cent and IF3= 41.3 per cent). The respondents in the two classifications opined that a successfully implemented integrated e-Government framework will unite e-Government standards, provide user-based information services, and promote the formulation of laws and regulations. While a minority of the participants indicated either ‘strongly disagreed’ or ‘disagreed’ to the statement.

Table 6.23: Implemented Integrated e-Government Framework (N=293)

| Items | Description | Agency | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--------------|--|---------------|--------------------------|-----------------|----------------|--------------|-----------------------|
| IF1 | It unites e-Government standards to form a unified platform for sharing information resources | 1 | - | 1(1.7%) | 2(3.5%) | 41(70.7%) | 14(24.1%) |
| | | 2 | - | - | 1(1.8%) | 34(61.8%) | 20(36.4%) |
| | | 3 | - | - | 4(6.6%) | 38(62.3%) | 19(31.2%) |
| | | 4 | 1 (1.7%) | 1 (1.7%) | 8(13.3%) | 37(61.7%) | 13(21.7%) |
| | | 5 | - | 1(1.7%) | 1(1.7%) | 34(57.6%) | 23(39%) |
| | | Total | 1 (0.3%) | 3(1%) | 16(5.5%) | 184(62.8%) | 89(30.4%) |
| IF2 | It provides information services that are based on users' interests or meet different users' needs | 1 | - | - | 10(17.2%) | 35(60.3%) | 13(21.7%) |
| | | 2 | - | - | 2(3.6%) | 36(65.5%) | 17(30.9%) |
| | | 3 | - | - | 2(3.3%) | 41(67.2%) | 18(29.5%) |
| | | 4 | - | 3(5%) | 7(11.7%) | 42(70%) | 8(13.3%) |
| | | 5 | - | 2(3.4%) | 1(1.7%) | 37(62.7%) | 19(32.2%) |
| | | Total | - | 5(1.7%) | 22(7.5%) | 191(65.2%) | 75(25.6%) |
| IF3 | Promotes the formulation of laws and regulations | 1 | 1(1.7%) | 9(15.5%) | 3(5.2%) | 27(46.6%) | 18(31.0%) |
| | | 2 | - | - | - | 24(43.6%) | 31(56.4%) |
| | | 3 | - | - | 4(6.6%) | 7(12.7%) | 50(82%) |
| | | 4 | 1(1.7%) | 2(3.3%) | 12(20%) | 40(66.7%) | 5(8.3%) |
| | | 5 | - | 2(3.4%) | 7(11.9%) | 33(55.9%) | 17(28.8%) |
| | | Total | 2(0.7%) | 13(4.4%) | 26(8.9%) | 131(44.7%) | 121(41.3%) |

6.7 Summary of Quantitative Research Findings

Table 6.24 presents a summary of the categories, themes and sub-themes derived from the quantitative data analysis.

Table 6.24: Summary of Quantitative Research Findings

| Technological Factors | Organisational Factors | Environmental Factors |
|--|--|---|
| <ul style="list-style-type: none"> • Availability of various communication channels such as mobile devices and PCs to access government services online | <ul style="list-style-type: none"> • Top management support • Skills and strategies to implement integrated e-Government | <ul style="list-style-type: none"> • Awareness of online service delivery |
| <ul style="list-style-type: none"> • Integrated framework across government agencies (i.e. interoperability) | | <ul style="list-style-type: none"> • Security and privacy • Digital divide • e-Readiness |
| <ul style="list-style-type: none"> • Technical support for design, implementation and operations | | |
| Benefits | Barriers | Risks |
| <ul style="list-style-type: none"> • Reduction in cost of delivering government services and information | <ul style="list-style-type: none"> • Lack of multi-communication channels such as mobile phones, digital TVs and Personal Computers (PCs) to access government services | <ul style="list-style-type: none"> • Cyber-crime such as crackers and hackers. |
| <ul style="list-style-type: none"> • Reduction in time and cost of content development | <ul style="list-style-type: none"> • Lack of reliable power supply | <ul style="list-style-type: none"> • Threats from trojans, worms and other forms of viruses. |
| <ul style="list-style-type: none"> • Quick response and processing of customers' needs and expectation. | | |
| <ul style="list-style-type: none"> • Increase in the productivity of governmental agencies' services | | |
| <ul style="list-style-type: none"> • Provides a feedback mechanism | | |

6.8 How the Quantitative Findings Strengthened the Qualitative Findings

The findings resulting from the quantitative analysis have reinforced or complemented some of the corresponding qualitative findings. Table 6.25 shows the qualitative themes supported by the quantitative findings.

Table 6.25: Qualitative Findings Complemented by Quantitative Analysis

| Qualitative Findings | Quantitative Findings |
|---|--|
| <i>Technological Themes</i> | |
| Lack of communication channels/reliable networks | Availability of various communication channels such as mobile devices and PCs to access government services online |
| Integrated framework across government agencies i.e. interoperability | Lack of interoperability |
| Technical support for design, implementation and operations | Lack of technical support |
| <i>Organisational Themes</i> | |
| Top management support | Top management support |
| <i>Environmental Themes</i> | |
| Digital divide | Digital divide |
| <i>Benefits</i> | |
| Reduced cost of service delivery | Reduction in cost of delivering government services and information |
| <i>Barriers</i> | |
| Shortage of power supply | Lack of reliable power supply |
| <i>Risks/Threat</i> | |
| Cybercrime and viral attacks | Cybercrime such as crackers and hackers |

6.9 Chapter Summary

The aim of this chapter was to present and analyse the findings from the quantitative data gathered from the five multiple case studies (LASPPPA, LABSCA, LASURA, LSSGO and LIRS). The quantitative data was gathered via responses from questionnaires in an attempt to proffer solutions to the research questions, and to validate the projected conceptual

structure. Based on the quantitative findings, the variables stated in the study's overview were validated and statistically tested using SEM.

Next is chapter seven which presents and discusses the consolidated empirical research findings made up of a combination of the quantitative and qualitative findings with reference to the study's research questions. Consequently, the researcher reviews the proposed framework based on the findings and a new integrated e-Government framework emerged.

CHAPTER SEVEN

DISCUSSION AND REVISITING THE FRAMEWORK

7.1 Introduction

The preceding chapter provided the empirical findings from the quantitative analysis of the data gathered through responses from the questionnaires' survey. In addition, the chapter showed how the quantitative findings affirmed some of the qualitative findings.

Section 7.2 provides the consolidated empirical research findings (combination of both quantitative and qualitative findings), upon which this discussion chapter is based. Section 7.3 presents and discusses the empirical research findings with reference to the study's research questions. Section 7.4 discourses the need for an integrated e-Government framework for HUDA services, which was one of the main research questions.

Section 7.5 highlights the lessons learnt from the empirical findings from integrated e-Government implementation in the Lagos State Housing and Urban Development Agencies (HUDA). The penultimate section presents the reviewed conceptual framework for the implementation of an integrated e-Government in Lagos State HUDA. Finally, an overview of the chapter is provided.

7.2 Presentation of the Consolidated Empirical Research Findings

The researcher presents the summary of the consolidated findings from both quantitative and qualitative (government officials and citizens) analyses through which data was collected in this study. The taxonomies of the findings are shown in tables 7.1 to 7.4.

Table 7.1: Grouping of Integrated e-Government Key Implementation Factors

| Technological Factors | Organisational Factors | Environmental Factors |
|--|---|--|
| <i>ICT Infrastructure:</i> | <ul style="list-style-type: none"> • Top management support (quantitative and qualitative findings) | <i>Environmental Issues:</i> |
| <ul style="list-style-type: none"> • ICT Infrastructure (qualitative finding) | <ul style="list-style-type: none"> • Skills and strategies to implement integrated e-Government (quantitative) | <ul style="list-style-type: none"> • Awareness of online service delivery (quantitative finding) |
| <ul style="list-style-type: none"> • Availability of various communication channels such as mobile devices and PCs to access government services online (quantitative and qualitative findings) | <ul style="list-style-type: none"> • Leadership (qualitative finding) | <ul style="list-style-type: none"> • Security and privacy (quantitative finding) |
| <i>Technological innovation:</i> | <ul style="list-style-type: none"> • Cultural and attitudinal aspects (qualitative finding) | <ul style="list-style-type: none"> • Digital divide (quantitative and qualitative findings) |
| <ul style="list-style-type: none"> • ICT strategy (qualitative finding) | <ul style="list-style-type: none"> • Quality of resource personnel (qualitative) | <ul style="list-style-type: none"> • e-Readiness (quantitative finding) |
| <i>Technological Readiness</i> | <ul style="list-style-type: none"> • Training and development (qualitative) | <ul style="list-style-type: none"> • Public policy enlightenment (qualitative finding) |
| <ul style="list-style-type: none"> • Integrated framework across government agencies i.e. inter-operability (quantitative and qualitative) | <ul style="list-style-type: none"> • Remuneration for ICT staff (qualitative finding) | <ul style="list-style-type: none"> • Regulatory policy and legislation (qualitative) |
| <ul style="list-style-type: none"> • Technical support for design, implementation and operations (quantitative and qualitative) | | <i>Government Funding:</i> <ul style="list-style-type: none"> • Budgetary allocation (qualitative) • Loans from the bank (qualitative) |
| <ul style="list-style-type: none"> • Lack of a maintenance culture (qualitative finding) | | <ul style="list-style-type: none"> • Public-private partnership (PPP) (qualitative finding) |
| | | <ul style="list-style-type: none"> • Internally Generated Revenue (IGR) (qualitative finding) |

Table 7.2: Grouping of Integrated e-Government Benefits, Barriers and Risk

| Benefits | Barriers | Risks |
|--|--|--|
| <i>Organisational Benefits:</i> | <i>Political Barriers:</i> | <i>Organisational Risks:</i> |
| <ul style="list-style-type: none"> Improves government transparency or accountability (qualitative) | <ul style="list-style-type: none"> Lack of leadership commitment (qualitative finding) | <ul style="list-style-type: none"> Misuse and misconception of the initiative (qualitative finding) |
| <ul style="list-style-type: none"> Provision of dependable services (qualitative finding) | <ul style="list-style-type: none"> Corruption (qualitative finding) | <ul style="list-style-type: none"> Infringement on personal data (qualitative finding). |
| <ul style="list-style-type: none"> Facilitates formation of laws and regulatory policy (qualitative finding) | <ul style="list-style-type: none"> Lack of transparency (qualitative finding) | <i>Security Risks:</i> |
| <i>Operational Benefits:</i> | <i>Financial Barriers:</i> | <ul style="list-style-type: none"> Cyber-crime and viral attacks (quantitative and qualitative findings) |
| <ul style="list-style-type: none"> Quick response and processing of customers' needs and expectations (quantitative finding). | <ul style="list-style-type: none"> Inadequate funding (qualitative finding) | <ul style="list-style-type: none"> Threat from trojans, worms and other forms of viruses (quantitative finding) |
| <ul style="list-style-type: none"> Increase in the productivity of governmental agencies' services (quantitative) | <i>Technological Barriers:</i> | <i>Process Risks:</i> |
| <ul style="list-style-type: none"> Provides a feedback mechanism (quantitative) | <ul style="list-style-type: none"> Shortage of power supply (quantitative and qualitative) Lack of electronic links/ integration (qualitative) | <ul style="list-style-type: none"> Loss of data (qualitative finding) |
| <i>Technical Benefits:</i> | <i>Organisational Barriers:</i> | |
| <ul style="list-style-type: none"> Provision of a holistic or integrated platform for sharing information (qualitative finding) | <ul style="list-style-type: none"> Resistance to change (qualitative finding) | |
| <i>Financial Benefit:</i> | <ul style="list-style-type: none"> Lack of competent IT professionals (qualitative) | |
| <ul style="list-style-type: none"> Reduction in the cost of delivering government services and information (quantitative and qualitative) | | |
| <ul style="list-style-type: none"> Reduction in time and cost of content development (quantitative finding) | | |

Table 7.3: Grouping of Major Stakeholders and Their Main Activities

| Development Phase | Major Stakeholders | | | Main Activities |
|---------------------------|--------------------|---------------|---------------|--|
| | Gover nment | Comp anies | Custo mers | |
| Pre-Implementation Phase | √ | | | Policy and regulation |
| | √ | √ | | ICT infrastructure |
| | √ | √ | | Establishment of an Integrated e-Government department |
| | √ | √ | | E-Government strategy |
| | √ | √ | | Payment system |
| | √ | √ | | Low cost of software and hardware |
| | √ | √ | √ | Education and staff training |
| | √ | | | Reduced taxation |
| | √ | √ | √ | Values, culture and religion |
| Implementation Phase | √ | | | New strategies for business and government |
| | √ | √ | | Secured online transactions |
| | √ | | | Change in business culture |
| | √ | √ | | Payment through credit cards |
| | √ | √ | | Usage of indigenous language on the website |
| | √ | √ | √ | Education and training |
| | √ | | | Security |
| | √ | √ | √ | Values, culture and religion |
| Post-Implementation Phase | √ | √ | | Security |
| | √ | √ | | Customers promotion and trust |
| | √ | √ | | Online promotion and awareness |
| | √ | √ | | Monitoring and updating |
| | √ | √ | √ | Education and training |
| | √ | √ | √ | Values, culture and religion |

All are qualitative findings and no newly derived factors were added.

Table 7.4: Challenges and Recommendations from Participants

| | |
|------|--|
| (i) | Identified Challenges |
| | The HUDA's efficiency: <ul style="list-style-type: none">• Lack of inter-agency integration Complex development permit process |
| | Awareness of the HUDA services |
| | Accessing information: <ul style="list-style-type: none">• Lack of computer-based information systems Lack of integration among the agencies |
| | Feedback response |
| | |
| (ii) | Recommendations |
| | Computerisation of records and services |
| | Online information systems |
| | Cooperation/integration among the agencies |

The key research findings from both the qualitative and quantitative data can be summarised accordingly. The major themes that emerged under the technological factors were non-availability of ICT infrastructure, lack of ICT strategy, technical interoperability and layout design for integrated e-Government implementation. Leadership, cultural and attitudinal issues, lack of qualified resource personnel and inadequate remuneration for ICT professionals, training and development have been identified as major organisational factors. Moreover, lack of public policy enlightenment or awareness of online service delivery, security and privacy, the digital divide, e-Readiness and inadequate funding have emerged as the main factors influencing e-Government implementation. The newly derived benefits influencing the implementation of e-Government in Lagos State HUDA that were identified in the empirical study were lack of integrated platform for sharing information, and reduction in time and cost of delivering government services. In addition, government and private companies have been identified as the key stakeholders in implementing e-Government in Lagos State HUDA.

7.3 Discussion of the Consolidated Empirical Research Findings (Research Question one)

Since the advent of e-Government initiatives, various literature has examined the barriers and the factors impacting the execution of e-Government concepts at different levels of government most especially at the central context. These factors and barriers were previously discussed in chapters two and three. However, the empirical investigation conducted in this study revealed that some of the factors and barriers have a significant influence on the HUDA context while others were inconsequential. The subsequent sections (7.3 to 7.9) will discuss the consolidated empirical findings which are combinations of the quantitative and qualitative findings presented in section 7.2 with reference to the research questions.

7.3.1 Technological Factors Influencing Integrated e-Government Implementation (sub research question 1)

This section narrates the extent to which technological factors would influence implementing integrated e-Government in the HUDA, which is the aim of the study's first research question. Though some studies on e-Government initiatives implementation constitute a reasonable part in the IS domain, in any case, there is need for a better comprehension of the elements that influence integrated e-Government implementation particularly within the context of the HUDA.

The technological influence is the main source of power that can enable the transformation process of electronic government implementation (Al-Solbi & Mayhew, 2005; Abdalla, 2012). The major themes that emerged under technological factors in the reviewed literature were ICT infrastructure, technological innovations and technological readiness. Hence, the sub-themes, ICT infrastructure, technological innovations, technological readiness and IT human resources, technical interoperability and layout design comprise the technological factors.

Besides, the validated factors that constituted part of the initial model (e.g. ICT infrastructure, integrated framework across government agencies (technical inter-operability) and availability of communication channels and technical support for design, implementation and operation; some new prominent dimensions that contribute meaningfully to the process of integrated e-Government implementation were also discovered in the empirical analysis presented in chapters five and six. These are ICT strategy, and lack of a maintenance culture which will be discussed afterwards.

(i) ICT Infrastructure

This was the first major theme identified under technological factors. The result from the multiple case studies revealed that the non-availability of an ICT infrastructure will significantly affect the implementation of an integrated e-Government in the Lagos State HUDA. As reported in the findings from the multiple case study, non-availability of an ICT infrastructure and various communication channels such as mobile devices and PCs to access government services, which are classified under ICT infrastructure, affects the implementation of an integrated e-Government in their agencies. These issues are supported in literature (Al-Solbi & Mayhew, 2005; Gupta et al., 2008; Durbhakula & Kim, 2011) which recognised ICT infrastructure as a significant factor that influences the implementations of e-Government initiatives.

Ndou (2004) upholds the same view as Al-Solbi and Mayhew (2005), Gupta et al. (2008), Durbhakula and Kim (2011) by remarking that a poor ICT infrastructure such as the lack of communication channels and reliable networks are some of the key impediments to e-Government development initiatives. This was supported by Gregorio et al. (2005) that ICT infrastructure is technology that enables internet related transactions. Since e-Government is dependent on ICT, it supplies the essential infrastructure required to communicate continuously the stream of information between the government and the citizens. The government officials emphasised the need for an ICT infrastructure to be provided and communication channels put in place for the effective delivery of public services and sharing of information.

(ii) Technological Innovation

This was the second major theme identified. ICT strategy, which was a sub-theme has been recognised as the main issue in technological innovation which a country needs for the introduction of new technologies in order to improve efficiency. The empirical evidence from the investigation unveiled that their agencies lack an ICT strategy which represents a crucial factor during integrated e-Government implementation. This discovery mirrors the findings of many scholars such as Fatile (2012), Durbhakula and Kim (2011). They identified the need for countries to embrace diverse ICT strategies so as to be viable in the world economy.

(iii) Technological Readiness

This is the last major theme under technological factors, which refers to the effective interaction of IT human resources with technological infrastructure and other aspects of technology including technical inter-operability and layout design. The cases of the five agencies reported in chapter five show that for integrated e-Government to be implemented successfully, they need to be substantially technologically ready. The empirical evidence has validated the integrated framework across government agencies (i.e. inter-operability) and technical support for design, implementation and operations. As a result, a new aspect of technological readiness emerged namely, a maintenance culture.

- *Integrated Framework across Government Agencies (Inter-operability)*: It was found that an integrated framework across government agencies represents an influential aspect of technological readiness for the implementation of integrated e-Government in the Lagos State HUDA. Many studies (for example Lam, 2005; Nkwe, 2012; Ashaye and Irani, 2013) highlight a lack of a shared and integrated architecture as a significant constraint to e-Government development especially in developing nations. The majority of the participants from the five agencies supported an integrated e-Government framework across the government agencies to allow information sharing among them (referred to as technical inter-operability), thereby facilitating the issuance of building development permits. This confirms the findings of ICT-Qatar (2009) which suggests that the objectives of integrated e-Government systems are to

increase availability, efficiency and effectiveness of providing public services to its customers.

- *Maintenance Culture*: This is a new aspect of technological readiness that surfaced from the multiple case studies which refers to the lack of a maintenance culture among the government officials for ICT equipment. This is in accordance with the discoveries in literature that one of the major difficulties confronting developing countries is a poor maintenance culture (Abdalla and Fan, 2012, and Liu and Zhou, 2010). However, this factor was considered to be crucial as referred by some studies (Quadri, 2012; Azeez et al. 2012) for implementing integrated e-Government. The multiple case studies revealed that the implementers as well as the officials recognised the important role of this factor in achieving a successful and sustainable integrated e-Government system in the HUDA.
- *Technical Support for Design and Implementation*: Another salient aspect of technological readiness that has been validated is technical support. The empirical evidence revealed that technical support for design, implementation and operations constitute an important technological readiness element affecting the accomplishment of an integrated e-Government in the HUDA. This finding is in keeping with Zhu et al. (2004) which considers technological support as an important variable for the implementation of ICT initiative projects. This is because technical support will help to build a reliable platform for integrated e-Government implementation.

7.3.2 Organisational Factors- Influencing Integrated e-Government Implementation (sub research question 2)

This section discusses the study's second research question. The influences of organisational factors on the implementation of an integrated e-Government in the HUDA are important

issues as revealed by the evidence from the multiple case studies' findings. The organisational factors influencing the implementation process are discussed accordingly.

(i) Leadership

The pragmatic fact from the outcomes revealed that leadership, which involves the active commitment and support of top management officials, plays a significant role during the implementation of an integrated e-Government system in their agencies. This is in agreement with the findings of Schwester (2009), Nkohkwo and Islam (2013). It is emphasised that leadership is among the driving forces for any new and ground-breaking idea or projects. The process of implementing any e-Government initiative is complex and requires large-scale changes, which need to be driven by a champion. As argued in chapter five (qualitative finding), the government officials clearly stated that a lack of leadership commitment may hinder the implementation of this system. So, it is very important to tackle these issues first for a successful implementation to become a reality.

(ii) Cultural and Attitudinal issues

Another key outcome of the multiple case studies is the identification of cultural and attitudinal issues as essential factors for consideration in implementing integrated e-Government. This coincides with Ifinedo's (2005) and Lam's (2005) study. They believe that socio-cultural and attitudinal mannerisms such as carelessness and corrupt practices are rampant among government functionaries. These factors have been recognised as some of the organisational factors responsible for poor implementation of e-Government initiatives in Sub-Saharan Africa. The empirical findings revealed that the issues under this factor need to be addressed by the implementers, otherwise this will negatively affect the initiative.

(iii) Qualified Resource Personnel

The empirical evidence indicated that the case study agencies need qualified resource personnel with skills and strategies to implement integrated e-Government. Moreover, it was reported that, there is a lack of qualified and skilled personnel to handle the integrated system, which constrains the implementation of an integrated e-Government system. This discovery

agrees with Ashaye's (2014) findings which states the need for government employees to possess expertise and knowledge of the occupational specialisations for the successful delivery of service within an integrated system.

(iv) Training and Development

This is a newly derived factor from the empirical findings. Many of the interviews identified training and development of staff as a vital organisational factor that needs to be considered for a successful implementation process. Other officials agreed that training and re-training of staff is required so that they can be up to date with the system technologically. These findings are consistent with those of other studies (for instance Bigdeli & Cesare, 2011, and Fatile, 2012) and suggest the need for ICT programmes and formal training for government officials as key organisational aspects for the growth of an e-Government initiative.

(v) Remuneration for ICT Staff

Remuneration is yet another newly derived factor from emerged from the multiple case study agencies. The participants identified inadequate remuneration for ICT professionals as a factor that would affect integrated e-Government implementation in their agencies. This was affirmed in the literature by Azeez et al. (2012) that poor remuneration for ICT staff will be an obstacle to e-Government implementation. The HUDA officials therefore identified the need for the government to be willing to remunerate the ICT- staff adequately or more handsomely. Failing to do so may influence staff to use their agencies as a training field where young ICT staff can gather experience and move to well-paid jobs.

**7.3.3 Environmental Factors- Influencing Integrated e-Government Implementation
(sub research question 3)**

This section discusses the study's empirical findings in relation to research question three which determines the extent to which environmental factors would influence integrated e-Government in the HUDA. According to Scott (2007) environmental factors play an essential role in the ease of using the system in the public agencies, and govern the process of implementing e-Government and the development of the public agencies. The analysis of the

empirical evidence of environmental factors affecting the implementation process is discussed under two major themes which surfaced, they are environmental issues and government funding.

(i) Environmental Issues

Besides, the regulatory policy and legislation that was validated, four additional prominent dimensions that contribute immensely to the process of integrated e-Government implementation were derived. These are public policy enlightenment or awareness of online service delivery, security and privacy, the digital divide and e-Readiness as shown in table 7.1 are discussed as follows:

- *Public Policy Enlightenment or Awareness of Online Service Delivery*: The public policy enlightenment is a newly derived variable, while awareness of online service delivery was validated from the multiple case studies. It alludes to the necessity for the government to create the awareness and public policy for implementing integrated e-Government in the HUDA. The findings from the case study agencies revealed that awareness which involves a public policy enlightenment campaign is imperative for several reasons. For instance, some authors (West, 2004; Nkohkwo & Islam, 2013) identify lack of acceptance and buy-in of an e-Government system by the citizens as well as government officials as the result of limited awareness of the initiatives. It was indicated in the breakdown of the pragmatic data the necessity for government to be transparent with all the stakeholders during the implementation process. Otherwise, the citizens would assume it is another means of siphoning public funds.
- *Security and Privacy*: This is a newly discovered factor from the research findings. The empirical evidence showed that security and privacy are aspects of the environmental issues that are important during and after implementing the integrated system. These factors have been acknowledged in various literature such as Ebrahim and Irani (2005), and Layton (2007) as important issues in the implementation of e-Government globally as it helps to build the trust and confidence of the citizens in transactions and online services. The objective of this exertion is to deliver trusted

and dependable security as a precondition for integrated e-Government services to the citizens.

- *The Digital Divide*: This is another dimension that has been validated from the findings, and alludes to the difference between those who have access to the internet and those who do not. Within the context of integrated e-Government implementation, the multiple case study result reflects this factor. This is in accordance with Oxford Internet Institute (2012) where the digital divide was itemised as one of the factors affecting the successful implementation of an e-Government initiative. Nevertheless, this effort is consistent with some authors like Kaliontzoglou et al. (2005) and Ashaye (2014) that highlight the need for the upgrading of applications and infrastructure to avoid the issue of digital divide.
- *E-Readiness*: This is another strategic outcome that denotes the capability of a community to use ICT. The analysis of the empirical findings revealed that e-Readiness is an environmental variable that will influence integrated e-Government implementation in the case study agencies. This consents with the empirical findings of several authors such as Kunstelj and Vintar (2009), Quadri (2012) and Omari (2013). They believe that low literacy levels as well as a lack of formal training regarding the use and applications of computers (e-Literacy), and infrequent internet access in the public agencies are influential issues that would affect the implementation process. Therefore, basic ICT training for the citizens is significant considering the array of literature that acknowledges e-Literacy as a core factor in the implementation process.
- *Regulatory Policy and Legislation*: The result of the multiple case studies' agencies also identified regulatory policy as a pertinent and crucial factor for the implementation of integrated e-Government system. Several literature findings (for example Kunstelj & Vintar, 2009; Odat & Khazaaleh, 2012) highlight the lack of regulatory policy and legislation as an important constraint to e-Government

development initiatives especially in developing African countries. Analysis of the multiple case studies showed that regulatory policy is important as it will help to protect and secure the customers, otherwise, the customers or citizens using the system will be exposed to danger. This also corroborates with Ndou (2004) which states that rules and policies are indispensable, and there is a need for a range of new rules, policies, laws and legislations that will address electronic activities such as computer crime, property rights and copyright issues.

(ii) Government Funding

Azeez et al. (2012). Nkohkwo and Islam (2013) identify funding which can be used to purchase ICT equipment for electronic government as a vital environmental factor that influences e-Government accomplishment. However, the five case study agencies vary in their levels of computerisation. But the analysis of the practical evidence unveiled that inadequate funding will obstruct integrated e-Government implementation in their agencies. Additionally, four new influential dimensions that could serve as other means of reducing the challenges of inadequate funding surfaced. These include budgetary allocation, internally generated revenue (IGR), loans from the bank and public private partnership (PPP) which are discussed accordingly.

- *Budgetary Allocations and Internally Generated Revenue (IGR)*: The analysis of the empirical findings from the five agencies revealed that budgetary allocations and IGR are some of the means through which government can fund the initiative. The empirical evidence emphasised funding through extra budgetary allocation and IGR for integrated e-Government implementation as a powerful means of alleviating the inadequate funding. This is in agreement with the findings from the UNDP report (2006) and Schuppan (2009) which bolster the need for more adequate resources as against the paltry budgetary allocation government usually earmark for ICT projects.
- *Loans*: This is a newly evolved factor representing another means through which government can fund this initiative, and that is capital intensive. This finding aligns with Ebrahim and Irani's (2005) study that sole dependence on government for public

agency funding makes it hard to plan a maintainable ICT initiative, because it may be difficult to control and secure. Empirical evidence from the analysis of multiple case studies revealed loans (local or foreign) as another source of funding for the e-Government initiative.

- *Public-Private Partnership (PPP)*: The outcome from the multiple case study agencies revealed that for government to successfully fund this project, there will be a need to collaborate with the private organisations thereby establishing a public private partnership (PPP). The reason for this is that many of the projects handled by the government directly have ended in failure according to empirical findings. This finding confirmed previous studies by Kunstelj and Vintar (2009), and Nkwe (2012) that highlights the need for public-private-partnership as a means of funding an e-Government project for a successful implementation.

7.3.4 Perceived Benefits- Influencing Integrated e-Government Implementation (sub research question 4)

With reference to research question four which enquires about the perceived benefits or established advantages of an integrated e-Government system that would influence its implementation in the HUDA as observed by either the citizens or the public agencies. Major themes emerged comprising of sub-themes that constituted part of the initial model. The major themes that emerged under perceived benefits in the reviewed literature were organisational, operational and technical, while financial benefits newly surfaced. The empirical evidence derived from the analysis of the multiple case study agencies validated some of the sub-themes, whereas new aspects also evolved as discussed in chapter six. The perceived benefits influencing the implementation process would be discussed under the major themes accordingly.

(i) Organisational Benefits

The empirical evidences from the five case study agencies revealed three dimensions under organisational benefits that influence integrated e-Government implementation in their

agencies. These dimensions are improved government transparency and accountability (validated), provision of dependable services (newly surfaced) and formation of laws and regulatory policy (validated). This supports Almarabeh and Abuali's (2010) findings that integrated e-Government will provide a sure medium to improve government transparency and accountability, improve efficiency, quality services and information, and regulatory policy. These are convincing issues that would influence the implementation process.

(ii) Operational Benefits

The results of the five multiple case studies indicated that integrated e-Government implementation offers operational benefits to their agencies. The empirical evidences revealed three dimensions of operational benefits that significantly affect the execution of the integrated system in the HUDA. These dimensions as presented in table 7.1 are, quick response and processing of customers' needs and expectations (validated); increase in the productivity of governmental agencies' services (validated); and provision of feedback mechanisms (validated). This finding is consistent with some authors like Carter and Belanger (2005), Kunstelj and Vinta (2005) which state that integrated e-Government would provide some operational benefits such as reduced administrative processing activities, improved efficiency and effectiveness, and better quality of service to the citizens. These are substantial aspects of benefits that would stimulate the implementation of integrated e-Government in the HUDA.

(iii) Technical Benefits

This is yet another aspect of integrated e-Government benefits with a newly derived sub-theme- provision of holistic or integrated platform for sharing information. The empirical evidence from the five multiple case studies revealed that this theme would motivate integrated e-Government implementation in their agencies; as it provides the platform to access government services and information anywhere and anytime, and expand new service delivery channels for government services. This was affirmed in the literature by Martin and Reddington (2009) that technical benefits derived from integrated e-Government would facilitate the delivery of government services.

(iv) Financial Benefits

This is another emerging theme with two subthemes. The empirical evidence from the five multiple case studies revealed two dimensions of financial benefits which are- reduction in the cost of delivering government services and information, and reduction in time and cost of content development. These dimensions of financial benefits would impact the integrated system by cutting down the cost of delivering government services. This affirms the findings from the literature (for example Carter & Belanger, 2005 and Al-Shafi, 2009) that an e-Government system embraces reduction in the cost and time spent in transacting and delivering services provided to the customers. It also reduces time spent in delivering government services.

7.3.5 Perceived Barriers- Affecting Integrated e-Government Implementation (sub research question 5)

This section addresses research question five which determines the barriers confronting integrated e-Government implementation and were classified under seven categories in the initial model. However, only four aspects were validated in the empirical evidence of the five case studies, while two sub-themes newly emerged. Although, some of these dimensions resurfaced under the factors (technological, organisational and environmental) earlier discussed. The empirical evidence unveiled that the challenges confronting an integrated e-Government system would negatively impact the implementation of the system if not quickly addressed. These barriers affecting integrated e-Government implementation are discussed under the major themes.

(i) Political Barriers

The analysis of the empirical evidence from all the case agencies disclosed political barriers as a major challenge that adversely affects integrated e-Government implementation. Political barriers which refer to political will and leadership commitment assumes a considerable part for any e-Government activity to succeed. Two sub-themes (lack of leadership commitment and lack of transparency) were validated while a newly derived aspect (corruption) evolved. This affirms the literature findings of Schwester (2009) that

suggests the need for the support of high level bureaucrats and political office holders for an e-Government project to succeed. Moreover, Kunstelj and Vintar (2009) report that the high level of corruption and lack of transparency among the government officials in the public agencies are possibly going to thwart integrated e-Government implementation if not addressed.

(ii) Financial Barriers

This is a newly emerged theme with only one subtheme, inadequate funding. This theme earlier appeared as government funding under environmental factors establishing the significance of funding for the accomplishment of the integrated system. Empirical findings from the agencies revealed financial issues as a major factor in the implementation of an integrated e-Government system in the public sectors. Inadequate funding has been recognised as the key financial problem hindering the accomplishment of electronic government in the agencies. In the literature, Ebrahim and Irani (2005) affirm that financial barriers make it hard to plan a workable ICT initiative. This suggests that for an integrated e-Government to be successfully implemented, there is a need to put in place financial investment that will sustain the project.

(iii) Technological Barriers

Technological issues are resurfacing again signifying the prominent role of this component in implementing an integrated e-Government system. The analysis of empirical evidence from the multiple case agencies as shown table 6.15 validates shortage of power supply and a lack of electronic links or integration as barriers in their agencies. Findings from the literature (for example Fatile, 2012 and, Ashaye & Irani, 2013) affirm that a steady power supply and electronic links or integration among the agencies are prerequisites for implementing an integrated e-Government system. Therefore, it is important to address these barriers for successful implementation to be achievable.

(iv) Organisational Barriers

Here is another barrier recurring for the second time with a validated sub-theme (resistance to change) in addition to a newly surfaced aspect (lack of competent IT professionals). The empirical evidence obtained from the analysed data disclosed that these barriers would hinder e-Government implementation in the HUDA. This result confirms the findings of Ellis (2015) who highlights the need to adequately address organisational barriers for e-Government projects to succeed, otherwise this would restrain the implementation of an integrated e-Government system.

7.3.6 Major Stakeholders Activities Influencing Integrated e-Government Implementation (sub research question 6)

The major stakeholders adapted from the postulated three-quarter moon model (Hamed, 2009) are classified as government, companies (private sectors) and customers (public) are discussed as follows, as well as their responsibilities at each stage of improvement of the study's outcomes.

7.3.6.1 Major Stakeholders and Their Activities at the Pre-implementation Phase

The empirical evidence validated all the dimensions that were parts of this framework, although detailed responsibilities were not shown in the framework. The empirical findings from all the case study agencies shown in table 6.16 revealed that all the participants acknowledged that government ought to be included in every activity taking place at the pre-implementation phase. Moreover, the empirical findings disclosed the need for private companies to be involved in almost all the activities at the pre-implementation phase except in policy and regulation, and reduced taxation; while the customers (i.e. public) were only involved in two activities which were education and staff training, values, culture and religion.

This is in accordance with the study carried out by Sharifi and Manian (2010). Their study suggests that government should be aware of its critical roles and realise that effective

execution of an integrated e-Government system hangs on their expertise throughout the three levels of development processes. Furthermore, according to Chen (2010) and Rowley (2011) government defines the roles and responsibilities of all the governmental stakeholders participating in the implementation processes; this shows the importance of government as a stakeholder in the implementation process.

7.3.6.2 Major Stakeholder and Their Activities during Implementation

Analysis of the empirical findings shown in table 6.16 revealed that government as a stakeholder still plays the most important role like the pre-implementation phase during the implementation process. Empirical evidence also showed that government is the key player followed by the private companies who only participates in five out the eight activities in the implementation stage. The five activities include use of local languages on website, payment through credit cards, secured online transaction, education and training, and values, culture and religion.

However, the third stakeholder which is the customer only participates in two activities which are education and training, and values, culture and religion during the implementation process. This aligns with the findings from literature such as Layton (2007) that suggests provision of trusted and dependable security as a precondition for integrated e-Government services to the citizens. These are some of the responsibilities of government and private companies during implementation process. Hence, the activities of these two stakeholders becomes crucial at this stage, because it helps to build trust and confidence in the citizens during transactions and online services.

7.3.6.3 Major Stakeholders and Their Activities at Post-Implementation Phase

The empirical evidence depicted in table 7.3 revealed that both the government and the private companies' play influential roles and participates in all the activities at the post implementation phase. Additionally, the analysis of the findings indicated that customers which are the third stakeholder only participate in two activities like the first two phases. However, no new activity or stakeholder was derived. In line with some literature (Obeidat

& Abu-Shannab, 2010, Rose & Grant, 2010) the role of the private organisation is to apply government strategies and manage transformations taking place in the newly implemented integrated e-Government environment.

Furthermore, the findings revealed that the achievement of this e-Government project is not only determined by the first and second stages but also continues after the execution of the project. The reasons for this are to measure performance, to maintain and improve the quality of services where possible. This concurs with the findings of Evaristo and Kim (2005) who suggests that other stakeholders, for example, government agencies and private organisations ought to support the subject of integrated e-Government implementation so as to improve the qualities of services offered to the customer's (public).

7.4 The Need for an Integrated e-Government Framework in HUDA (Research Question two)

This section supports the need for an integrated e-Government framework for improving the services of the HUDA. In doing this, two new major themes (Gaps between HUDA and citizens, and recommendations for effective service delivery) emerged and will be discussed accordingly.

7.4.1 Challenges between HUDA (G2G) and Citizens (G2C, C2G)

The empirical investigation findings obtained from the multiple case study agencies and the citizens revealed that there are challenges in the Housing and Urban Development Agencies (G2G) and the citizens (G2C and C2G) applying for the building development permits. These challenges are classified into three aspects, namely: challenges in the HUDA efficiency, challenges in the awareness of the HUDA services and challenges in accessing information.

- *HUDA Efficiency*: The examination of the pragmatic findings from the citizens applying for the development in HUDA indicates that there are inefficiencies among the five housing agencies. The reasons for the inefficiencies are based on the fact that there is a lack of inter-agency integration and a complex development permits

process. These have been identified as the causes of the gap between the government and the citizens. The empirical findings also revealed that the citizens need to visit and revisit the five agencies before they are eventually granted the permits. This complicated process can be linked with a lack of cooperation or disintegration among the agencies.

- *Awareness of the HUDA Services:* Analysis of the empirical findings disclosed that the HUDA did not create enough awareness for the citizens about their services and requirements for granting building development permits. This reduces citizens' access to information because they are not well informed of the responsibilities of the agencies. This factor was discussed earlier under environmental issues and is resurfacing again. It shows the importance and the need for government to create an awareness campaign for the officials as well as the citizens during integrated e-Government projects implementation.
- *Accessing Information and Feedback Response:* The empirical findings from the analysed data unveiled that it takes a long time for the citizens to get the required information about the procedures for granting development permits as well as feedback response from the HUDA. This challenge according to empirical evidence, has been linked to a lack of computer based information systems. The empirical findings also revealed that four out the five agencies basically rely on paper based files for their operations.

7.4.2 Recommendations for Effective Service Delivery in HUDA

The empirical evidence from the five study agencies have suggested the need for the Lagos State housing and urban development agencies to computerise their processes and embrace online information systems. The reasons given are that it makes the procedures for issuing building development permits speedier and less demanding. Similarly, the findings from the citizens also recommended that the HUDA should endeavour to computerise their services

and be linked together to allow information sharing among the agencies. These recommendations agree with many studies such as Goldkuhl (2008), Kunsself and Vintar (2009). These authors suggested the need for integration in an e-Government environment as it offers several benefits to the users of public services from cheaper and faster services to better quality of services.

The identified challenges and the recommendations for effective service delivery in the HUDA is in agreement with the study's background where the challenges confronting the Lagos State HUDA were highlighted. This includes endless paper work, lack of coordinated activities within agencies of the same ministry, fragmentation, isolation and lack of links among the agencies which makes them non-interactive thereby resulting in lack of information in the Internet environment. These findings concur with many studies (for example Soares & Amaral, 2011, and Fatile, 2012) who acknowledge the lack of cooperation among governmental agencies and disintegrated frameworks as major challenges to any e-Government system.

Consequently, citizens are compelled to interact with multiple agencies before they are satisfied with their requests. These gaps suggest the need for an integrated e-Government framework for the HUDA, which is the aim of the study. If not, according Kaur (2006) lack of an e-Government implementation framework to ensure integrated system would make the situation or problem progressively worse.

7.4.3 Justification for Adding Risk Factors in Integrated e-Government Implementation

A good number of researchers demonstrated that regardless of the enormous benefits that can be derived from integrated and knowledge sharing systems, there are a lot of risks that are associated with its implementation (Whitmore & Choi, 2010 and Ashaye, 2014). From the empirical findings, four risk factors (cyber-crime and viral attacks, threats from trojans, worms and other forms of viruses; and loss of data) were validated, while a new risk (misuse and misconception of the initiative) emerged.

These empirical evidences align with literature findings of Nigaz and Moon (2009) that suggest that such factors will threaten the implementation of integrated e-Government services. Therefore, government needs to be proactive by putting in place some preventive measures against cyber-crimes and technology misuse such as cyber-crime prevention laws, computer forensics, and create awareness campaigns on cyber threats and the possible actions to protect their data.

7.5 Lessons Learnt from the Consolidated Empirical Findings

The lessons learnt from the review of literature and the analysis of the empirical findings on the various factors affecting integrated e-Government implementation in the HUDA are stated as follows:

- Since integrated e-Government system is entirely new to the HUDA, it implies that there is no framework to guide the implementers and stakeholders when implementing the initiative. This is a strong justification for this study. The empirical analyses in chapter five and six also revealed that the levels of computerisation in the case agencies are different. Only one agency seems to be well computerised but none of these agencies are electronically integrated with one another.
- From the questionnaires and interviews conducted, it was revealed that the participants agreed that the stakeholders should work together in close relationship with transparency to ensure an effective integrated e-Government implementation process.
- The study identified the three major stakeholders, their activities and influence at every stage of the development process and were validated by the empirical evidence.
- From the empirically analysed data, it was revealed that there is lack of in-house competent IT professionals which are competent enough to build integrated e-

Government system. This maybe a high risk for the public agencies resulting in a high cost of investments for the implementation of the projects.

- The grouping of the various factors affecting integrated e-Government implementation would help practitioners as well as researchers to have an enhanced understanding of factors or issues surrounding the execution of the e-Government initiative. In support of this, the empirical findings authenticated many initial factors while some were derived newly.
- The empirical findings confirmed the major stakeholders and their main responsibilities at every stage of the implementation practice. Also, the empirical data analysed disclosed government as a major stakeholder that plays the most crucial role throughout the implementation phases. This was seconded by private companies, while the citizens (customers) play the least role in the implementation process.
- The analysis of the empirical evidence showed that there is a gap in the efficiency of the housing agencies (G2G) which resulted in the gap between government and citizens (G2C, C2G) interaction. The reasons identified from the research findings were lack of computerisation of records and services, lack of an online information system, lack of cooperation or integration among the agencies. Consequently, there is need for the Housing and Urban Developing Agencies to computerise their records and services; allow interoperability among the agencies and customer-centered online service for effective delivery of services.
- The empirical analysis further revealed that the participants in the survey have relatively varied notions about the integrated e-Government concept. So, the grouping together of the key factors, distinguishing perceptions and the activities of the major stakeholders influencing integrated e-Government were mapped out. This provides for the validation of the proposed framework presented in chapter three.

7.6 Reviewed Conceptual Framework for Integrated e-Government Implementation

As explained in chapter three, the conjectured framework comprised three models namely TOE framework which represents the key factors of the proposed model, drivers and barriers model, and the three-quarter moon model (figure 3.5). However, a modified framework was developed as a result of the analysis of the empirical evidence- suitable for the multiple case studies context in the Lagos State HUDA. This makes it flexible to test statistically (using SEM) and validate the factors in the combined model through the research findings.

The proposed model which is applicable for a particular context in the Lagos State HUDA fieldwork was subjected to different factors which are vital for implementing integrated e-Government system among the multiple agencies and the citizens. This has helped to develop a holistic framework applicable as a roadmap in the Lagos State HUDA for implementing integrated e-Government. During the process of developing the model, the researcher came up with an appraisal matrix showing the components of the different models and the adapted ones across the five case studies agencies.

Tables 7.5, 7.6 and 7.7 present the synthesised and validated components in the revised framework using the results of the empirical evidence. These tables affirm the conceptual framework validity and the newly derived dimensions affecting the implementation of integrated electronic government in HUDA.

Table 7.5: Synthesis of Validated Integrated e-Government Implementation Factors

| Technological Factors | | Organisational Factors | | Environmental Factors | |
|--|----|--|----|--|----|
| <i>ICT Infrastructure:</i> | | • Leadership | V | <i>Environmental Issues:</i> | |
| • ICT Infrastructure | V | • Cultural and attitudinal issues | V | • Awareness of online service delivery | V |
| • Availability of communication channels e.g. mobile devices and PCs | V | • Quality of resource personnel | V | • Security and privacy | ND |
| <i>Technological innovation:</i> | | • Training and development | ND | • Digital divide | V |
| • ICT strategy | ND | • Remuneration for ICT staff | ND | • e-Readiness | V |
| <i>Technological Readiness</i> | | • Top management support | V | • Public policy enlightenment | ND |
| • Integrated framework across government agencies (i.e. inter-operability) | V | • Skills and strategies to implement integrated e-Government | V | • Regulatory policy and legislation | V |
| • Technical support for design, implementation and operations | V | | | <i>Government Funding:</i> | |
| • Lack of a maintenance culture | ND | | | • Budgetary allocation | ND |
| | | | | • Loans from the bank | ND |
| | | | | • Public-private partnership (PPP) | ND |
| | | | | • Internally Generated Revenue (IGR) | ND |

Note: Validated = V; Newly Derived= ND

Table 7.6: Synthesis of Validated Integrated e-Government Benefits, Barriers and Risks

| Benefits | | Barriers | | Risks | |
|--|----|--|---------|---|----|
| <i>Organisational Benefits:</i> | | <i>Political Barriers:</i> | | <i>Organisational Risks:</i> | |
| • Improves government transparency or accountability | V | • Lack of leadership commitment | V | • Misuse and misconception of the initiative | ND |
| • Provision of dependable service | ND | • Corruption • Lack of transparency | ND V | • Infringement on personal data | V |
| • Facilitates formation of laws and regulatory policy | ND | <i>Financial Barriers</i> | | <i>Security Risks</i> | |
| <i>Operational Benefits:</i> | V | • Inadequate funding | V | • Cyber-crime and viral attacks | V |
| • Quick response and processing of customers' needs and expectation. | V | <i>Technological Barriers:</i> | | • Threat from trojans, worms and other forms of viruses | V |
| • Increase in the productivity of governmental agencies' services | V | • Shortage of power supply | V | <i>Process Risks:</i> • Loss of data | V |
| • Provides feedback mechanisms | V | • Lack of electronic links/integration | V | | |
| <i>Technical Benefits:</i> | | <i>Organisational Barriers</i> | | | |
| • Provision of holistic or integrated platform for sharing information | V | • Resistance to change | V | | |
| <i>Financial Benefit:</i> | | • Lack of competent IT professional | V | | |
| • Reduction in cost of delivering government services and information | V | | | | |
| • Reduction in time and cost of content development | V | | | | |

Note: Validated = V; Newly Derived= ND

Table 7.7: Synthesis of the Major Stakeholders and Their Main Activities

| Development Phase | Major Stakeholders | | | Main Activities | |
|---------------------------|--------------------|-----------|-----------|--|---|
| | Government | Companies | Customers | | |
| Pre-Implementation Phase | √ | | | Policy and regulation | V |
| | √ | √ | | ICT infrastructure | V |
| | √ | √ | | Establishment of an Integrated e-Government department | V |
| | √ | √ | | E-Government strategy | V |
| | √ | √ | | Low cost of software and hardware | V |
| | √ | √ | | Payment system | V |
| | √ | √ | √ | Education and staff training | V |
| | √ | | | Reduced taxation | V |
| | √ | √ | √ | Values, culture and religion | V |
| Implementation Phase | √ | | | New strategies for business and government | V |
| | √ | | | Secured online transaction | V |
| | √ | √ | | Change in business culture | V |
| | √ | √ | | Payment through credit cards | V |
| | √ | √ | | Usage of indigenous languages on the website | V |
| | √ | √ | √ | Education and training | V |
| | √ | | | Security | V |
| | √ | √ | √ | Values, culture and religion | V |
| Post-Implementation Phase | √ | √ | | Security | V |
| | √ | √ | | Monitoring and updating | V |
| | √ | √ | | Online promotion and awareness | V |
| | √ | √ | | Customers' promotion and trust | V |
| | √ | √ | √ | Education and training | V |
| | √ | √ | √ | Values, culture and religion | V |

Note: Validated = V; Newly Derived= ND

As shown in table 7.5, 7.6 and 7.7 the empirical evidence derived from this study unveiled the fact that the proposed model which comprised Technology-Organisation-Environment model, drivers-barriers and three-quarter moon models developed by DePietro et al., (1990), Hamed et al. (2008) and Hamed (2009) respectively were adaptable for this study context,

the Lagos State HUDA. The rationale for combining and using the models was that components in them were identified as factors which influence integrated e-Government implementation in all the case agencies. Consequently, the reviewed model may not be generalised to other sectors, States or nations having different levels and structures. But with a few minor modifications, the model may be applied to sectors, state and nations that have similar characteristics and structures. Figure 7.1 presents a reviewed conceptual framework- Integrated e-Government framework for Lagos State Housing and Urban Development Agencies (i-eGovF4Lag).

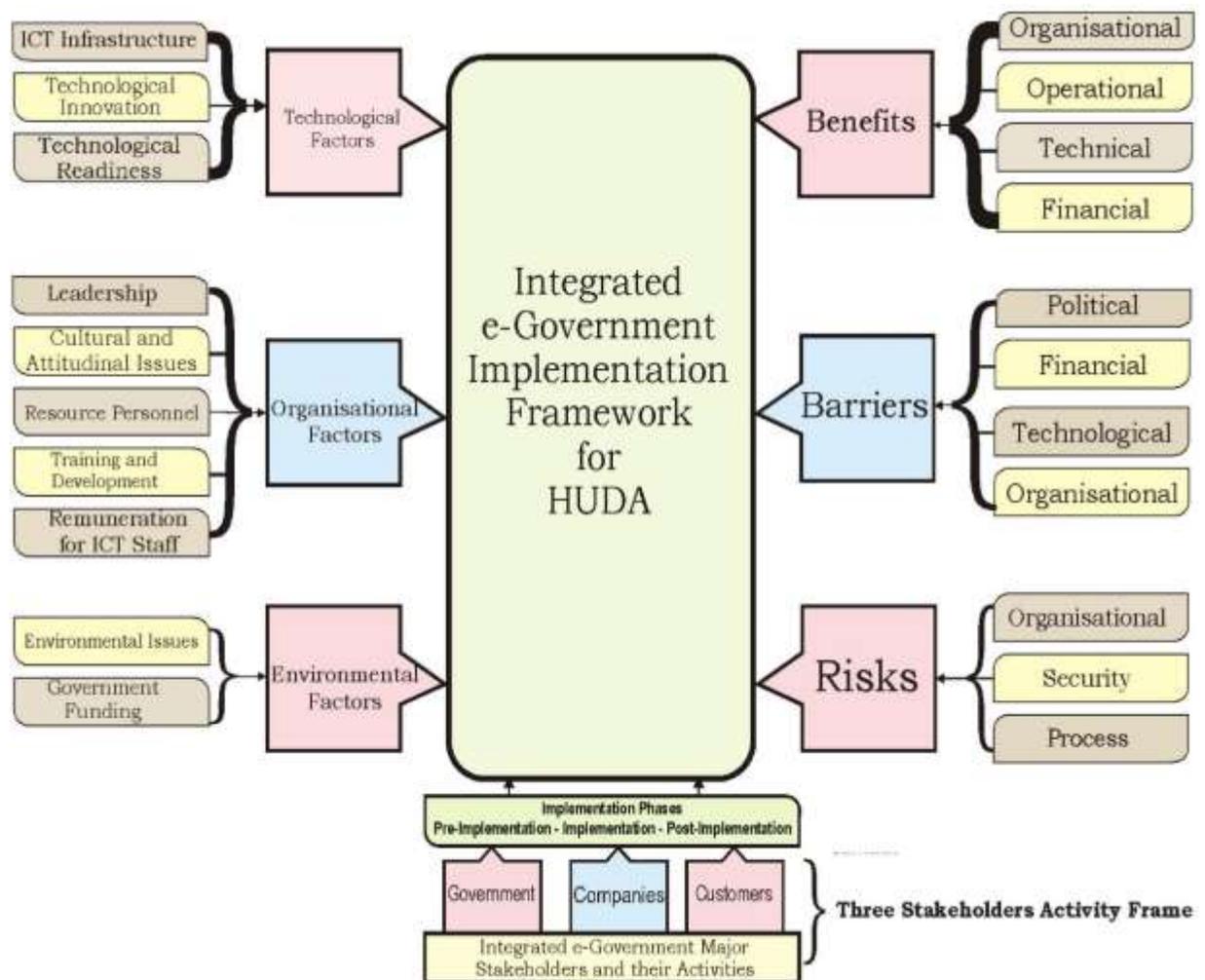


Figure 7.1: Integrated e-Government Framework for the Lagos State (i-eGovF4Lag)

HUDA

As shown in figure 7.1, there are three basic steps toward the formation of the holistic framework for the implementation of the integrated system process. These are discussed as follows:

- **Integrated e-Government Implementation Factors:** Technological, organisational and environmental factors impacting on the implementation of integrated e-Government within the context of TOE framework were identified. With the empirical research evidence, these factors were mapped and validated. This step will be useful for academicians and practitioners planning to conduct research on the aspect of issues affecting the implementation of e-Government system.
- **Integrated e-Government Perceptions:** Refers to the identified benefits, barriers and risk factors affecting the implementation of integrated e-Government, based on the concept of benefits - barriers model was ascertained. With the empirical findings, the themes or aspects in the factors were verified accordingly.
- **Integrated e-Government Major Stakeholders and their Main Activities:** This unit identified the major stakeholders and their main activities in the implementation of integrated e-Government projects. These factors were identified, validated, synthesised and presented in 7.6. Having done these, the responsibilities of each stakeholder were mapped out at every phase of the development as good practice rules for the effective implementation of the initiative.

Conclusively, this revised framework is a novel contribution as it is the only one known to the best of the researcher's knowledge that explores technology, organisational, environment, benefits, barriers, risks, government, companies and customers as factors that influence the implementation of integrated e-Government system. Moreover, these dimensions have been unified for practitioners and academics to have a holistic perspective of the factors as an integrated e-Government structure as shown in figure 7.1.

7.7 Chapter Summary

The chapter focused on the presentation and discussion of the consolidated empirical findings with reference to the research questions. The chapter also revisited and adjusted the planned framework for integrated e-Government implementation, which consists of technological, organisational and environmental factors (adopted TOE model); benefits, barriers and risks factors (adapted drivers-barriers model) and three major stakeholders (adapted three-quarter moon model).

Some of the factors that constituted the proposed conceptual framework were statistically tested using SEM to produce a pre-model. Hence, an improved framework emerged as a result of the analysis of the consolidated findings. In addition, the possible relationships among these factors that influence integrated e-Government implementation were mapped out based on the empirical analysis of the data and findings.

Moreover, the empirical findings obtained from the analysis of the five case agencies that are LASPPA, LABSCA, LASURA, LSSGO and LIRS affirms the appropriateness and validity of the reviewed model in the Lagos State HUDA; or in other similar sectors, states or provinces having a similar structure with modifications. Besides, the factors that were presented in the initial conceptual framework, new prominent factors which play crucial roles in integrated e-Government implementation process were derived. These include a maintenance culture, remuneration for ICT staff, awareness, the digital divide, e-Readiness, budgetary allocation, loans from banks and public-private partnership (PPP).

Thus, the findings from the empirical data have endorsed a holistic framework which can be used as a tool for supporting government agencies' decisions toward the implementation of integrated e-Government projects. The revised framework can also be used by researchers and academics for the analysis and understanding of the different factors that influence e-Government implementation systems.

The next chapter presents an overview and summary of the research findings. This is followed by the contribution of the thesis to the body of knowledge, and the limitations experienced by the researcher during the programme. Lastly, recommendations are made for practice and further study, and the research conclusion is drawn.

CHAPTER EIGHT

CONCLUSION

8.1 Introduction

This study sought to determine the factors influencing the implementation of an integrated e-Government and develop a holistic framework for the Housing and Urban Development Agencies in Lagos State Nigeria. The two main research questions that guided the study were:

- What factors influence the implementation of integrated e-Government services in HUDA?
- How can the identified factors assist to build a holistic integrated e-Government framework for HUDA?

These two questions were broken down into the following sub-questions:

- To what extent do technological factors influence the implementation of an integrated electronic government in HUDA?
- How do organisational factors influence the implementation of an integrated electronic government in the HUDA?
- To what extent do environmental factors influence the implementation of an integrated electronic government in the HUDA?
- How can the perceived benefits influence the implementation of an integrated electronic government in the HUDA?
- What are the barriers affecting the implementation of an integrated electronic government in the HUDA?
- How can the roles of the major stakeholders influence the implementation of an integrated electronic government in the HUDA?

The two main objectives of the study were:

- To determine the factors that influence the implementation of integrated e-Government services in HUDA.

- To develop a holistic integrated e-Government framework for HUDA.

The sub-objectives of the study are stated as follows:

- To determine the extent to which technological factors will influence the implementation of an integrated electronic government in the HUDA.
- To determine how organisational factors influence the implementation of integrated electronic government in the HUDA.
- To determine the extent to which environmental factors influence the implementation of an integrated electronic government in the HUDA.
- To ascertain the influence of perceived benefits on the implementation of an integrated electronic government in the HUDA.
- To identify the barriers affecting the implementation of an integrated electronic government in the HUDA.
- To determine how the roles of the key stakeholders will influence the implementation of an integrated electronic government in the HUDA.

Sections 8.2 and 8.3 present the research overview and summary of the research findings in the study respectively. Section 8.4 explains the contributions of this study to the existing body of knowledge; while the various limitations experienced in the course of the study are stated in section 8.5. Sections 6 and 7 present implications for practice and recommendations for further study respectively. Finally, a succinct research conclusion of the study is presented in the last section.

8.2 The Research Overview

This study realised the need for electronic government integration as the most salient solution to the problems confronting the Lagos State HUDA. Hence, the study proposed the development of an integrated e-Government framework for examining and mapping the various factors influencing the implementation of an integrated e-Government in the Lagos State HUDA. Also, this study helped to recognise the gaps between the housing and urban

development agencies (G2G) and the citizens (G2C, C2G). The various steps taken towards achieving the research aim and objectives were discussed in each chapter.

8.3 Summary of Research Findings

Based on the findings and the inventive contributions originating from this empirical study the following conclusions were drawn:

- Due to the gap identified in the reviewed literature which is void of a holistic framework for implementing integrated e-Government in the Lagos State HUDA, a conceptual framework was planned in chapter 3. This framework was then validated and reviewed to become a novel design for implementing integrated e-Government in the HUDA as shown in figure 7.1. The entire integrated component factors of this framework have been validated (e.g. the T-O-E framework, drivers and barriers, and three-quarter moon models). Although the empirical findings suggested restructuring of the integrated e-Government implementation process by including new significant factors in the integrated e-Government framework. Consequently, the framework integrates nine major factors some of which consist of sub-factors or dimensions. These factors are technological, organisational, environmental, benefits, barriers, risks, government, companies and customers. The validated framework could be utilised by the government officials as a reference during decision making. The model would also help the research scholars to understand the various themes and factors involved in integrated e-Government implementation.
- Based on the empirical evidence, new taxonomies for the different factors influencing integrated e-Government implementation were mapped out. These are benefits, barriers and risks factors, and three-stakeholder frame consisting of government, companies and customers' factors. These taxonomies which are made up of various dimensional components can be applied as a different model by practitioners and researchers planning to investigate the diverse classifications at every implementation stage.

8.4 Contribution to Academic Knowledge

This study makes a contribution in a number of ways; these are outlined below and include:

- Contribution to literature on integrated e-Government;
- Practical contribution of integrated e-Government.

(i) Contribution to Literature on Integrated e-Government

This thesis *contributes to existing literature on* integrated e-Government implementation with regard to the research context and the specific focus on evaluation and implementation of integrated e-Government system. In particular, there is no comprehensive study about integrated e-Government implementation in Lagos State, Nigeria. Furthermore, many integrated e-Government implementation studies lack a common basis for comparison, since they use different sources of data, research methods and metrics. Another contribution relates to how integrated e-Government *systems influence the delivery of services* and how these systems affect the organisation and the operations of its main users and stakeholders.

(ii) Practical Contribution of Integrated e-Government

In addressing the absence of a relevant model suitable for integrated e-Government implementation in the Lagos State HUDA; the study developed an empirical model which proposes a process of implementing integrated e-Government in government agencies. This led to the research findings earlier stated in this chapter. Based on these research findings, the study proposed innovative contributions within the context of integrated e-Government implementation for a specialised context- Lagos State.

A framework for implementing integrated e-Government, which is the core contribution of the study, is based on the empirical evidence that provides an exhaustive implementation framework for integrated e-Government in government housing agencies. The framework practically adds to the field of electronic government by recognising the key components and features affecting the implementation of e-Government systems in government public sectors.

Similarly, as a result of the new framework, an innovative idea in the field of Information Systems (IS) has been made. This would enhance effective delivery of public services in developing nations. The new model would also assist decision makers to set a strategic goal for future applications of ICT in service delivery through the identification of the key implementation factors. Moreover, this model would provide an element of reflection on the socio-economic value for the community, such as increase in confidence of the citizens in their government which is an essential factor in good governance.

An improved three-stakeholder activity frame can be used by researchers and government as a reference frame to identify the major stakeholders in the implementation of the integrated systems as well as their responsibilities at each phase of the development process. This frame constitutes part of the modified integrated e-Government framework shown in figure 7.1 for integrated e-Government implementation in the Lagos State HUDA.

8.5 Research Limitations

Just like any other study, this research was also confronted with some limitations. This study was restricted to a specific geographical area (Lagos State) in Nigeria; and the research conducted within a number of government agencies that constitute a sector. Consequently, it becomes hard to generalise the applicability of the integrated framework to e-Government implementations in other states, provinces, regions or nations of the world.

Obtaining gatekeeper letters from the five case study agencies for their permissions to conduct research was also another inhibiting factor in carrying out the study. Even during the survey visiting and scheduling of appointments with the government officials were repeatedly cancelled and re-scheduled. Moreover, some of the participants from the multiple case studies' agencies failed to fill some sections of the questionnaires they perceived were either too technical or time consuming to complete. Although, if not for the benefits of the contact persons in all the five agencies, the researcher would have strived to collect more data.

As a result of the bureaucracy experienced during the data collection, some of the questionnaires were left behind as researchers could not embark on further research visit to Lagos State, Nigeria. The most devastating factor is the cost of returned flights from South Africa and Nigeria which could not be totally ignored. After the data collection, the researcher experienced constraints in the analysis of the research findings. Thus, the questionnaires that were not completely filled were discarded during analysis, this is because the researcher used AMOS version 22 for the SEM as one of the data analytical tools. And some of the requirements for using SEM are that all the questions must be answered, and minimum of 200 participants must be involved in the survey. In view of this, questionnaires that were not completely filled were discarded. This reduced the number of questionnaires analysed to 293 as against 350 that were distributed.

8.6 Implications for Practice

Based on the practical findings from the multiple case studies, a number of implications for practice for Lagos State and Nigerian Governments have emerged.

Infrastructure characteristically signifies the basic installations and facilities upon which the continuation and development of a state relies on, such as telecommunication networks, good roads and electricity (Babalola, 2013). Infrastructure is an important factor in any country's development. It is therefore suggested to the governments to improve on its infrastructure especially electricity supply and Internet connections since the implementation of this initiative depends largely on these two factors. Currently, the citizens, business and most governmental organisations still depend on dial-up network and data bundles from mobile phones as a result of limited broadband networks available in Nigeria.

The government should provide backings for the private companies. This can be accomplished by creating an enabling environment for them to operate, such as removal of foreign investments barriers and reduction in duty obligations on ICT hardware and services

that has to do with integrated e-Government developments in Lagos State and Nigeria at Large.

ICT Strategy has been recognised as the main issue in technological innovation required for the introduction of new technological advances such as integrated e-Government implementation. It is therefore recommended that government should create an integrated e-Government strategies office that will work closely with other government agencies. The responsibilities of this office should include organising workshops, seminars, training and development, conferences and enlightenment campaign programmes for an integrated e-Government system and ICT infrastructure.

It was deduced from the empirical findings that government is principally responsible for funding, formulation of legislation and regulatory policy. Therefore, it is suggested that government should provide adequate funding for this initiative to prevent the project from failing. Legislation and policy that will protect and secure the citizens should also be formulated and enforced.

8.7 Recommendations for Further Study

Basically, there are tendencies for further studies in every research, this study is not excluded. Therefore, this study proposes the following recommendations which are discussed as follows: The framework developed for integrated e-Government implementation in this study was based on five case agencies which subsume one of the public sectors located in Lagos State, Nigeria. This means that the specific circumstances surrounding this sector alone (housing sector); within a single level of government is considered. Different levels such as Local, State and Federal Government were not involved. However, the framework may be adopted directly by other sectors or Sub-Saharan African countries with the same cultural backgrounds and views similar to what have been deliberated on in this study. Consequently, the researcher suggests that the framework be verified for other contexts such as other public

sectors, state or multiple levels of government before the framework can be generalised to other government sectors.

The study also identified a number of risks and barriers affecting the accomplishment of integrated e-Government based on single housing and urban development sector and literature. Hence, it is suggested that further study ought to be conducted as this may uncover more impediments and menaces confronting integrated e-Government implementation.

Empirical evidence and many reviewed literature revealed that cultural and attitudinal issues (e.g. resistance to change) and leadership support are big challenges in many developing countries. This often results in failure in the implementation of viable government projects. But the researcher considers this study from technical perspective. Therefore, study from the management viewpoint is suggested because the influence of culture and leadership support for a successful integrated e-Government implementation cannot be over-emphasised.

Moreover, it is suggested that the three-stakeholder activity frame should be investigated further by practitioners and scholars using other contexts and theories apart from the ones used in this study. This is to expand the generalisability of the frame. Additionally, since the purpose of this study was to develop a framework for implementing integrated e-Government in the Lagos State HUDA, the researcher recommends further study on post-implementation reviews by other research scholars. Further research work can also be carried out on the successful adoption framework and the effective utilisation of the implemented e-Government services.

8.8 Research Conclusion

In this chapter, an overview of the research process, a summary of the research findings, contributions to knowledge, recommendations for practice and opportunities for further study including limitations of the research as a whole have been described specifically for Lagos State and the Nigerian government. From the analysis and findings, it was apparent that the

accomplishment of any ICT initiative more precisely e-Government project implementation would largely depend on leadership (government) support and availability of resources. Moreover, government needs to work closely with other major stakeholders of e-Government project who play critical roles at every stage of the implementation process.

Therefore, the study achieved what it set out to do – the understanding of e-Government implementation from government-to-government and government-to-citizens' perspectives in HUDA. In so doing, the study revised and modified the planned framework for integrated e-Government implementation as a result of the analysis of the consolidated findings, and an improved framework emerged. Based upon the TOE framework, drivers-barriers and three-quarter moon models, nine factors that were found to influence the implementation of integrated e-Government in Lagos State HUDA context were validated.

Thus, the findings from the empirical data supports the holistic framework that can be used as a tool to determine government agencies' quality decisions toward the implementation of integrated e-Government projects in the Housing and Urban Development Agencies (HUDAs).

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Appendix 1

Ethical Clearance Certificate



13 July 2015

Mr Yinusa Olumoye Mosud (214581608)
School of Management, IT & Governance
Westville Campus

Dear Mr Mosud,

Protocol reference number: HSS/0843/015D

Project title: Towards an Integrated Electronic Government Framework for Housing and Urban Development Agencies: A case of Lagos State Nigeria

Full Approval – Expedited Application

In response to your application received on 30 June 2015, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

You

.....
Dr Sheruka Singh (Chair)

/ms

Cc Supervisor: Dr Irene Govender
Cc Academic Leader Research: Professor Brian McArthur
Cc School Administrator: Ms Angela Pearce

Humanities & Social Sciences Research Ethics Committee

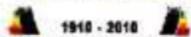
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Appendix 2
Covering Letter and Research Questionnaire

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF MANAGEMENT, IT AND GOVERNANCE

Dear Respondent,

PhD Research Project
Researcher: Mosud Y. Olumoye (+2348023383547 & +27734149436)
Supervisor: Professor Irene Govender (031 260 3485)
Research Office: Ms. M Snyman (031 260 8350)

I, Mosud, Yinusa Olumoye a PhD student at the School of Management, IT and Governance of the University of KwaZulu-Natal. You are invited to participate in a research project entitled Towards an Integrated Electronic Government Framework for Housing and Urban Development Agencies: A Case of Lagos State Nigeria. The aim of this study is: “To develop an integrated electronic government framework for Housing and Urban Development Agencies that will allow interaction among government agencies and as well deliver its services efficiently”.

Through your participation, I hope to understand the real process involved in getting development permit and respondents opinion about it. The results of the survey are intended to identify the gaps that exist among government agencies and between government and citizens. This will contribute to new generation of knowledge in electronic government field. It will also allow interaction and sharing of information among different government agencies, and to ensure unified and appropriate implementation process for e-government initiatives.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey. Confidentiality and anonymity of records identifying you as a participant will be maintained by the School of Management, IT and Governance, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about 50 minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator’s signature : _____ Date : _____

On Separate Page

INFORMED CONSENT

I..... (Full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT:.....DATE:

.....

Questionnaire for Staff of Lagos State Government Agencies

The sections in the questionnaire survey are as follows:

Section A: Respondent Information

Section B: Questions on Development Permit Process

Section C: Questions on Integrated Electronic Government (e-Government)

Section D: Questions on Integrated e-Government Key Factors

Section E: Questions on Integrated e-Government Perceptions

Section F: Questions on Integrated e-Government Implementation Process

1. Identification Number (From 1 to 350)

Section A: Respondent Information

Please provide your personal information by ticking the box that corresponds to your answer

2. Name of your agency: (Select ONE option only)

- Lagos State Physical Planning Permit Authority (LASPPPA)
- Lagos State Building Control Agency (LABSCA)
- Lagos State Urban Renewal Agency (LASURA)
- Lagos State Surveyor General's Office (LSSGO)
- Lagos State Internal Revenue Service (LIRS)

3. Age group

- 20 to 29 years
- 30 to 39 years
- 40 to 49 years
- 50 to 59 years
- 60 years and above

4. Gender

- Male
- Female

5. Highest educational qualification:

- National Diploma/ Nigerian Certificate of Education
- HND/Bachelor's degree
- Master's degree
- Other (Please specify): _____

6. Respondent's level of employment in the agency:

- Manager
- Director
- General Manager
- Permanent Secretary

Section B: General Questions on Development Permit Process

Part I: Introductory Questions

7. Which type of development permit registration process is commonly related to your agency responsibility? (Select ONE option only)

- Processing and issuing of all development permits in the state
- Ensuring developers, designers and property owners to comply with building and urban regulations plans
- Preparing and implementing approved state urban upgrading and redevelopment projects
- Providing survey plans
- To collect revenue

| Items | Yes | No |
|--|-----------------------|-----------------------|
| 8. Has your agency got any front-office? | <input type="radio"/> | <input type="radio"/> |
| 9. Has your agency got any back-office? | <input type="radio"/> | <input type="radio"/> |

10. Through which of these mechanisms do citizens lodge their complaints to your agency?

- Complaint box
- Direct contact
- Feedback register
- Mail
- Phone

11. Through which medium does citizens' know about the responsibilities of your agency?

(Select ALL that applies)

- Through the agency's website
- Direct contact with the office
- Advertisement

Part II: Questions on Interactions among the Related Agencies

| Items | Yes | No |
|---|-----------------------|-----------------------|
| 12. Do you need to get data/information from connected agencies? | <input type="radio"/> | <input type="radio"/> |
| 13. Is there any duplication of working process in your agency and other related ones | <input type="radio"/> | <input type="radio"/> |

14. How do you usually access data/information in your agency?

- Electronically
- Digitally

Part III: Questions on Gaps between Housing & Urban Development Agencies and Citizen

| Items | Yes | No |
|---|-----------------------|-----------------------|
| 15. Is development permit process computerised in your agency? | <input type="radio"/> | <input type="radio"/> |
| 16. Is there any duplication of working process between your agency and the citizens? | <input type="radio"/> | <input type="radio"/> |

17. How many days do you need to provide each type of development permit process handled by your agency?

- 1 to 5 days

- 6 to 10 days
- 11 to 19 days
- 20 to 29 years
- 30 days and above

Indicate your agreement with the following items:

| Items | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 18. Computerisation of records will make it easier to search and access information | <input type="radio"/> |
| 19. Computerisation of records and online information systems will make permit process faster and easier | <input type="radio"/> |
| 20. It is much easier and secured to transfer documents electronically than manual method | <input type="radio"/> |

Section C: Questions on Integrated Electronic Government (e-Government)

21. Which of the following statement characterises your agency's involvement in integrated e-Government? (Select ONE option only)

- I am just hearing the term integrated e-Government for the first time
- I have heard of integrated e-Government and used it for a short time
- I have only attended seminar that relates integrated to e-Government
- Just planning to use integrated e-Government
- Extensive user of integrated e-Government

22. How best can you describe integrated electronic government system? (Select ONE option only)

- Information available online only
- Services available online only
- One-way interaction possible
- Complete transaction of information possible within single agency
- Integration of various public services offered by government agencies to the citizen via a single access point

23. For how long has Internet been introduced into your agency? (Select ONE option only)

- Not at all
- Less than a year
- 1 to 5 years
- 6 to 10 years
- More than 10 years

24. For how long has your agency had a website?

- We don't have a website
- Less than a year
- 1 to 5 years
- 6 to 10 years
- More than 10 years

25. Does your agency have any of the automated links to other agencies?

- My agency has link to other agencies
- My agency does not have link to other agencies but plans are underway to create the link
- My agency does not have link to other agencies and no plan for it

Section D: Questions on Integrated e-Government Key Factors

The key issues in integrated e-Government implementation process are Technological, organisational and environmental factors.

(a). Technological Factors

1. Indicate your agreement that the following technological factors will influence integrated e-Government implementation in your agency.

| 1 | Code | Technological Factors | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-----|------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1.1 | TF1 | ICT infrastructure | <input type="radio"/> |
| 1.2 | TF2 | Integrated framework across government agencies that is technological interoperability | <input type="radio"/> |
| 1.3 | TF3 | Technical support for design, implementation and operations | <input type="radio"/> |
| 1.4 | TF4 | Internet access | <input type="radio"/> |
| 1.5 | TF5 | Availability of various communication channels such as mobile devices and Personal Computers (PCs) to access government services. | <input type="radio"/> |

(b). Organisational Factors

2. Indicate your agreement that the following organisational factors will influence integrated e-Government implementation in your agency.

| 2. | Code | Organisational Factors | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-----|------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 2.1 | OF1 | Top management support | <input type="radio"/> |
| 2.2 | OF2 | Capacity building and training | <input type="radio"/> |
| 2.3 | OF3 | Skills and strategies to implement integrated e-government | <input type="radio"/> |
| 2.4 | OF4 | Monitoring and evaluation of integrated e-government projects | <input type="radio"/> |

- 2.5 OF5 Adequate remuneration for ICT professional and consultants

(c). Environmental Factors

3. Indicate your agreement that the following environmental factors will influence integrated e-government implementation in your agency.

| 3. | Code | Regulatory Policy | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-------------------------|------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 3.1 | RP1 | ICT regulatory policy | <input type="radio"/> |
| 3.2 | RP2 | Legislation which encourages collaboration across different levels of government and private sectors | <input type="radio"/> |
| 3.3 | RP3 | Easily accessible laws and regulations to enable e-government services | <input type="radio"/> |
| 3.4 | RP4 | Policy to protect security and privacy of e-government customers. | <input type="radio"/> |
| Cultural Aspects | | | | | | | |
| 3.5 | CA1 | Awareness of integrated e-government | <input type="radio"/> |
| 3.7 | CA2 | Awareness of online service delivery | <input type="radio"/> |
| 3.8 | CA3 | Trust and security | <input type="radio"/> |
| 3.9 | CA4 | Digital divide (Social term referring to difference between those that have access to the Internet and those that does not have) | <input type="radio"/> |
| 3.10 | CA5 | e-Readiness (e-readiness means the ability of a community to use ICT) | <input type="radio"/> |

Section E: Questions on Integrated e-Government Perceptions

(a). Perceived Barriers

4. Indicate your agreement that the following perceived barriers will affect the implementation of integrated e-government in your agency.

| 4. | Code | Technical Barriers | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-----|------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 4.1 | TB1 | Lack of integrated technologies for heterogeneous databases to | <input type="radio"/> |

| | | | | | | | | |
|------|-----|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | achieve a single point of contact for the citizen | | | | | | |
| 4.2 | TB2 | High cost of ICT equipment, installation, maintenance and operation of integrated e-Government | <input type="radio"/> |
| 4.3 | TB3 | Lack of multi-communication channels such as mobile phones, digital TV and Personal Computers (PCs) to access government services. | <input type="radio"/> |
| 4.4 | TB4 | Lack of reliable power supply | <input type="radio"/> |
| | | Political Barriers | | | | | | |
| 4.5 | PB1 | Lack of accountability and transparency of government administration e.g. corruption and lack of openness | <input type="radio"/> |
| 4.6 | PB2 | Lack of leadership commitment | <input type="radio"/> |
| 4.7 | PB3 | Lack of legislative support | <input type="radio"/> |
| | | Strategic Barriers | | | | | | |
| 4.8 | SB1 | Lack of clear vision and objectives for e-Government | <input type="radio"/> |
| 4.9 | SB2 | Lack of funding or financial resources | <input type="radio"/> |
| 4.10 | SB3 | Lack of partnership and collaboration (i.e. Public private partnership) | <input type="radio"/> |
| 4.11 | SB4 | Lack of implementation strategies | <input type="radio"/> |

(b). Perceived Benefits

5. Indicate your agreement that the following perceived benefits will influence your agency participation in integrated electronic government implementation initiative.

| 5. | Code | Financial Benefits | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-----|------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 5.1 | FB1 | Reduction in cost of delivering government services and information | <input type="radio"/> |

| | | | | | | | |
|--------------------------------------|------|---|---|---|---|---|---|
| 5.2 | FB2 | Reduction in time and cost of content development | ○ | ○ | ○ | ○ | ○ |
| Organisational benefits | | | | | | | |
| 5.3 | OB1 | Improved collaboration among government ministries, departments and public agencies | ○ | ○ | ○ | ○ | ○ |
| 5.4 | OB2 | Increase in data exchange among government agencies | ○ | ○ | ○ | ○ | ○ |
| 5.5 | OB3 | Enhancement of the quality of decision-making process in the organisation | ○ | ○ | ○ | ○ | ○ |
| 5.6 | OB4 | Research and development | ○ | ○ | ○ | ○ | ○ |
| Technical Benefits | | | | | | | |
| 5.7 | TeB1 | Improvement in ICT infrastructure | ○ | ○ | ○ | ○ | ○ |
| 5.8 | TeB2 | Prevention of data duplication among the public agencies. | ○ | ○ | ○ | ○ | ○ |
| 5.9 | TeB3 | Prevention of disintegration of public services | ○ | ○ | ○ | ○ | ○ |
| Operational Benefits | | | | | | | |
| 5.10 | OBe1 | Quicker response and processing of customers' needs and expectations | ○ | ○ | ○ | ○ | ○ |
| 5.11 | OBe2 | Increase in the productivity of governmental agencies services | ○ | ○ | ○ | ○ | ○ |
| 5.12 | OBe3 | Delivery of services to the customers through single access point of contact | ○ | ○ | ○ | ○ | ○ |
| 5.13 | OBe4 | Provides feedback mechanism | ○ | ○ | ○ | ○ | ○ |
| 5.14 | OBe5 | Delivery of services through local and widely available channels | ○ | ○ | ○ | ○ | ○ |
| 5.15 | OBe6 | Offers the citizens dependable services | ○ | ○ | ○ | ○ | ○ |
| Social and Political Benefits | | | | | | | |
| 5.16 | SP1 | Strengthening of citizen relationship with government | ○ | ○ | ○ | ○ | ○ |

| | | | | | | | |
|------|-----|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 5.17 | SP2 | Trust in government | <input type="radio"/> |
| 5.18 | SP3 | Delivery of highly demanded services | <input type="radio"/> |
| 5.19 | SP4 | Publishing of information e.g. On government services, statistical information, current rules and regulations | <input type="radio"/> |
| 5.20 | SP5 | Provision of online services such as E-mail enquiry, applications, permits and e-payments | <input type="radio"/> |

6. Perceived Risks

Indicate your agreement that the following perceived risks could result from integrated e-Government implementation in Housing and Urban Development Agency in Lagos State

| 6. | Code | Perceived Risks | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-----|------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 6.1 | PR1 | Unsecured computer rooms and ICT equipment | <input type="radio"/> |
| 6.2 | PR2 | Unauthorised internal and external access to information by intruders | <input type="radio"/> |
| 6.3 | PR3 | Misconception and misuse of integrated e-Government services | <input type="radio"/> |
| 6.5 | PR4 | Cybercrime such as crackers and hackers | <input type="radio"/> |
| 6.6 | PR5 | Threat from Trojans, worms and other forms of viruses | <input type="radio"/> |
| 6.7 | PR6 | Infringement on personal privacy as a result of background check and surveillance | <input type="radio"/> |

Section F: Questions on Integrated e-Government Implementation Framework

7. To what extent do you agree that a well implemented integrated e-Government framework will offer the following services?

| | Code | Implemented Framework | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-----|------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 7.1 | IF1 | It unites e-Government standards to form a unified platform for sharing information resources | <input type="radio"/> |
| 7.2 | IF2 | It provides information services that are based on | <input type="radio"/> |

| | | | | | | | | |
|-----|-----|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | users interest or meet different users need | | | | | | |
| 7.3 | IF3 | Promotes the formulation of laws and regulations | <input type="radio"/> |
| 7.4 | IF4 | Provides advanced online integration capabilities for e-Government information services | <input type="radio"/> |
| 7.5 | IF5 | Foster a healthy and good service concept | <input type="radio"/> |

Appendix 3

Covering Letter and Interview Guide for the Government Agencies' Officials

**UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF MANAGEMENT, IT AND GOVERNANCE**

Dear Respondent,

PhD Research Project

Researcher: Mosud Y. Olumoye (+2348023383547 & +27734149436)

Supervisor: Professor Irene Govender (031 260 3485)

Research Office: Ms. M Snyman (031 260 8350)

I, Mosud, Yinusa Olumoye a PhD student at the School of Management, IT and Governance of the University of KwaZulu-Natal. You are invited to participate in a research project entitled Towards an Integrated Electronic Government Framework for Housing and Urban Development Agencies: A Case of Lagos State Nigeria. The aim of this study is to develop an integrated electronic government framework for Housing and Urban Development Agencies that will allow interaction among government agencies and as well deliver its services efficiently.

Through your participation, I hope to understand the real process involved in getting development permit and respondents opinion about it. The results of the survey are intended to identify the gaps that exist among government agencies and between government and citizens. This will contribute to new generation of knowledge in electronic government field. It will also allow interaction and sharing of information among different government agencies, and to ensure unified and appropriate implementation process for e-government initiatives.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey. Confidentiality and anonymity of records identifying you as a participant will be maintained by the School of Management, IT and Governance, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

This interview should take you about 45 minutes to complete.

Sincerely

Investigator's signature : _____ Date : _____

On separate page

INFORMED CONSENT

I..... (Full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

I hereby consent / do not consent to have this interview recorded

SIGNATURE OF PARTICIPANT: DATE:

Interview Questions for Staff of Lagos State Government Agencies

The sections in the interview are as follows:

Section A: General Questions on Interaction among Government Agencies and Citizens

Section B: General Questions on Integrated Electronic Government Implementation

Section A: General Questions on Interactions among Government Agencies and Citizens

1. What is the responsibility of your agency? _____

2. How does the citizens' know about the responsibilities of your agency?

3. How do you usually access data/information in your agency?

4. Do you need to get data/information from connected agencies? If yes, how?

5. Is development permit process computerised in your agency?

6. How long does it take to provide each type of development permit process handled by your agency?

7. What problems do you face in your agency in interacting with other related agencies involved in development permit process?

8. What are the consequences of the problems to the citizens and the agencies?

9. How does the citizen submit the required data/information for processing to your agency?

10. Do you think computerisation of records and online information systems will make this process faster and easier? If yes, explain _____

Section B: Part 1: General Questions on Integrated Electronic Government Implementation

11. How best can you describe the term integrated e-Government?

Technological Factors in Integrated e-Government Implementation

12. What are the challenges facing ICT infrastructure in your agency?

13. What other technological factors are affecting the implementation of integrated electronic government in your agency? -----

Organisational Factors in Integrated e-Government Implementation

14. Are the top management staffs willing to support this change in your agency in terms of commitment and awareness? -----

15. What other organisational factors do you think will affect the implementation of integrated electronic government in your agency? -----

Environmental Factors in Integrated e-Government Implementation

16. How will government fund this e-Government project?

17. What other environmental factors do you think will affect the implementation of integrated electronic government in your agency? -----

Perceived Barriers in Integrated e-Government Implementation

18. How will government tackle the issue of high cost of ICT installation and maintenance?

19. What other barriers do you think will hinder the implementation of integrated electronic government in your agency? -----

Perceived Benefits of Integrated e-Government Implementation framework

20. What benefits do you think your agency stands to gain in implementing integrated electronic government in your agency? -----

Perceived Risks of Integrated e-Government Implementation

21. What are the risks or threats involved in implementing integrated e-Government to your agency? _____

Part 2: Stakeholders in Integrated Electronic Government Implementation

Identify the major stakeholders and their main activities in integrated e-Government implementation process. Tick all that applies.

| Development Phase | Main Activities | Major Stakeholders | | |
|---------------------------|--|--------------------|---------------|---------------|
| | | Gover nment | Comp anies | Custo mers |
| Pre-Implementation Phase | Policy and regulation | | | |
| | ICT infrastructure | | | |
| | Establishment of an Integrated e-Government department | | | |
| | E-Government strategy | | | |
| | Low cost of software and hardware | | | |
| | Payment system | | | |
| | Education and staff training | | | |
| | Reduced taxation | | | |
| | Values, culture and religion | | | |
| Implementation Phase | New strategies for business and government | | | |
| | Change in business culture | | | |
| | Use of local languages in website | | | |
| | Payment through credit cards | | | |
| | Secured online transaction | | | |
| | Education and training | | | |
| | Security | | | |
| | Values, culture and religion | | | |
| Post-Implementation Phase | Security | | | |
| | Monitoring and updating | | | |
| | Online promotion and awareness | | | |
| | Customers promotion and trust | | | |
| | Education and training | | | |
| | Values, culture and religion | | | |

23. Would you like to add something else? If yes, please specify _____

Appendix 4

Covering Letter and Interview Guide for Citizens Applying for Development Permits

**UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF MANAGEMENT, IT AND GOVERNANCE**

Dear Respondent,

PhD Research Project

Researcher: Mosud Y. Olumoye (+2348023383547 & +27734149436)

Supervisor: Professor Irene Govender (031 260 3485)

Research Office: Ms. M Snyman (031 260 8350)

I, Mosud, Yinusa Olumoye a PhD student at the School of Management, IT and Governance of the University of KwaZulu-Natal. You are invited to participate in a research project entitled Towards an Integrated Electronic Government Framework for Housing and Urban Development Agencies: A Case of Lagos State Nigeria. The aim of this study is to develop an integrated electronic government framework for Housing and Urban Development Agencies that will allow interaction among government agencies and as well deliver its services efficiently.

Through your participation, I hope to understand the real process and rigours involved in getting development permit and respondents opinion about it. The results of the survey are intended to identify the gaps that exist among government agencies and between government and citizens. This will contribute to new generation of knowledge in electronic government field. It will also allow interaction and sharing of information among different government agencies, and to ensure unified and appropriate implementation process for e-government initiatives.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey. Confidentiality and anonymity of records identifying you as a participant will be maintained by the School of Management, IT and Governance, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

This interview should take you about 30 minutes to complete.

Sincerely,

Investigator's signature : _____ Date : _____

On separate page

INFORMED CONSENT

I..... (Full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

I hereby consent / do not consent to have this interview recorded

SIGNATURE OF PARTICIPANT: DATE:

Interview Questions for the Citizens for the Citizens Applying for Development Permits

The sections in the questionnaire are as follows:

Section A: Background Information

Section B: General Questions on Development Permit Services

Section C: Closing Questions

Section A: Background Information

Please provide your personal information by ticking the box that corresponds to your answer

1. Respondent's gender

Male

Female

2. Highest educational qualification of respondent:

Secondary/Technical

ND/ NCE

HND/Bachelor's degree

Master's degree

PhD

Other (please specify): _____

3. Respondent's occupation:

Public sector

Private sector

Self employed

Other (please specify): _____

4. Have you ever used any of the following services related to development permit registration? Select more than one answer.

| Services | Used | Using |
|--|--------------------------|--------------------------|
| i. Processing of planning permits in Lagos State | <input type="checkbox"/> | <input type="checkbox"/> |
| ii. Processing of certificates of completion at different stages of construction | <input type="checkbox"/> | <input type="checkbox"/> |
| iii. Upgrading and redevelopment of projects approval | <input type="checkbox"/> | <input type="checkbox"/> |
| iv. Survey plan | <input type="checkbox"/> | <input type="checkbox"/> |
| v. Payment of tax/ revenue | <input type="checkbox"/> | <input type="checkbox"/> |

Finish the interview if respondent has not used any of the services

5. How do the agencies treat your request on development permit issues?

First come, first serve

Pay more to be served first

Other opinion: _____

6. How many people would you approach to complete the service processes?

- 1 to 5 people
- 6 to 10 people
- 10 to 15 people
- Other (please specify): _____

7. How long does it take to get the service(s) done?

- 1 week
- 2 to 5 weeks
- 6 to 10 weeks
- 11 to 15 weeks
- Other (please specify): _____

8. How do you submit data/information required for processing of the development permit?

- Digitally
- Manually

9. What difficulties do you encounter from the agencies in the process of getting development permit service and what the reasons for these difficulties?

10. What are the consequences of the problems to you?

11. Is there any feedback mechanism through which you (citizens) can lodge complaints to the agencies handling your permit?

- Complaint box
- Direct contact
- Feedback register
- Mail
- Phone
- None
- Other: _____

12. Have you ever been involved in the process of decision-making concerning getting permit?

- Yes
- No

If yes, please specify: _____

If no, do you think it is necessary: _____

13. Have you ever used online services?

Yes

No

If yes, where and for what? _____

| | Questions | Yes | No | I Don't Know |
|-----|---|-----------------------|-----------------------|-----------------------|
| 14. | Do you think delivery of development permit services via online will make service faster and easier? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. | In your opinion, do you think it is easier and secured to transfer documents electronically than manual method? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

16. What are your expectations about housing and urban development agencies?

17. Is there anything you would like to add in this regard?

Yes

No

If yes, specify _____

Appendix 5

Analysis of the Transcribed Interview

| Target Group | Name of Agencies | Number of Interviewees | Number of Pages Transcribed |
|---------------------|---|-------------------------------|------------------------------------|
| Group 1 | LASPPPA | 2 | 6 |
| | LABSCA | 2 | 6 |
| | LASURA | 2 | 6 |
| | LSSGO | 3 | 6 |
| | LIRS | 2 | 6 |
| | | | |
| Group 2 | Customers Applying for Building Development Permits | 5 | 10 |

Appendix 6

Factor Loading with Commonalities

| Items | Factors | | | | | | Commonalities after Extraction |
|---|---------|-------|-------|-------|-------|-------|-----------------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| TF2 | 0.759 | | | | | | 0.691 |
| TF3 | 0.683 | | | | | | 0.713 |
| TF5 | 0.687 | | | | | | 0.724 |
| OF1 | 0.518 | | | | | | 0.707 |
| OF3 | 0.677 | | | | | | 0.758 |
| CA2 | | | 0.746 | | | | 0.717 |
| CA3 | | | 0.773 | | | | 0.733 |
| CA4 | | | 0.830 | | | | 0.762 |
| CA5 | | | 0.773 | | | | 0.707 |
| FB1 | | 0.621 | | | | | 0.667 |
| FB2 | | 0.725 | | | | | 0.716 |
| OBe1 | | 0.804 | | | | | 0.737 |
| OBe2 | | 0.720 | | | | | 0.674 |
| OBe4 | | 0.639 | | | | | 0.670 |
| TB3 | | | | | | 0.727 | 0.686 |
| TB4 | | | | | | 0.668 | 0.721 |
| PR4 | | | | | 0.788 | | 0.784 |
| PR5 | | | | | 0.809 | | 0.771 |
| IF1 | | | | 0.745 | | | 0.743 |
| IF2 | | | | 0.824 | | | 0.787 |
| IF3 | | | | 0.680 | | | 0.637 |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation. | | | | | | | |
| a. Rotation converged in 9 iterations. | | | | | | | |