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Master's Thesis of Public Administration

**E-Government Transformation in
Uganda's Public Sector:
Status, Achievements and Challenges**

**우간다 공공부문의 전자정부 전환:
현재 진행상황과 성과, 과제를 중심으로**

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ABSTRACT

E-GOVERNMENT TRANFORMATION IN UGANDA'S PUBLIC SECTOR: Status, Achievements and Challenges

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This Study has focused on the status, achievements and challenges for e-government transformation in Uganda's Public Sector. The study began by examining the status, achievements and challenges of e-government as a potential driver of government transformation. An expert survey result has been applied to analyze and evaluate the current challenges critical to the initiation, development and implementation of e-government in Uganda's Public Sector.

Data was collected from Uganda using a focus group discussion and field observations. In this research I discuss the factors of technology like institutional docility and social e-transformation so as to find out whether they positively or negatively affect e-government transformation in Uganda. The overall purpose of this study is therefore to find out how e-government has transformed Uganda's Public Sector; its status, achievements and challenges.

Keywords: e-government, e-government transformation, e-government status, e-government achievements, e-government challenges, Uganda, Institution

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LIST OF ABBREVIATIONS

MoICT:	Ministry of Information and Communication Technology
MoFED:	Ministry of Finance, Planning and Economic Development
MoJCA:	Ministry of Justice and Constitutional Affairs
MoGLSD:	Ministry of Gender, Labour and Social Development
MoICT:	Ministry of Information Communication Technology
MoTWA:	Ministry of Tourism, Wildlife and Antiquities
MoPS:	Ministry of Public Service
MoIA:	Ministry of Internal Affairs
NITA-U:	National Information Technology Authority - Uganda
NIRA:	National Identification and Registration Authority
IFMS:	Integrated Financial Management System
PPDA:	Public Procurement and Disposal of Public Assets
URA:	Uganda Revenue Authority
UCC:	Uganda Communication Commission
UBOS:	Uganda Bureau of Statistics
NWSC:	National Water and Sewerage Cooperation
UMI:	Uganda Management Institute
ICT:	Information Communication Technology
OP:	Office of the President

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CHAPTER ONE: Introduction

1.1. Introduction

This study was conducted to find out E-government transformation in Uganda's Public Sector; its status, achievements and challenges.

E-government is one of the policies which the Government of Uganda had introduced in an effort to revamp the Civil Service and improve on its service delivery. The government of Uganda believes that ICT should be utilized if the country is to move into era of electronic government. E government is aimed at demystifying the role of government, simplifying procedures, bringing transparency, accountability, making credible timely information available to all citizens and an overall improvement of the whole Public Sector.

The Government of Uganda (GOU) recognizes the role of Information and Communications Technology (ICT) in fostering economic development and is taking steps to adopt the emerging new technologies in order to modernize service delivery. It is also the belief of the GOU that ICT should be utilized to move into the era of electronic Government (e-Government) that is aimed at demystifying the role of Government, simplifying procedures, bringing transparency, accountability, and making credible timely information

available to all citizens and at the same time providing all services in an efficient and cost effective manner.

The e-government concept broadly defined, e-government is the use of ICT to promote a more efficient and effective government, facilitates accessibility to government services, allows greater public access to information, and makes government more accountable to citizens. E-government involves delivering services via the Internet, telephone, electronic media, community centers (self-service or facilitated by others), wireless devices or other communications systems.

To the authorities this is one of the steps taken to ensure that the Civil Service delivers quality service to the public in an efficient, effective and responsive manner. In order to satisfy national aspirations and promote the advancement of the people, the government of Uganda has of recent advised all government entities to adopt ICT and e government in all their day to day activities. However, the general public's reaction might have varied, which could have hindered the realization of this policy objectives. The aspirations of the Government of Uganda and various expectations from the general public, entailed that Government Ministries and Departments had to swing into action in implementing the policy irrespective of the challenges involved.

1.2. Background

The E-government domain (also called Electronic Government, Digital Government, Electronic Governance, and other similar names) emerged in the late 1990's. Since then it spurred several scientific conferences and journals (United Nations, 2006). The history of computing in government organizations can be traced back to the beginning of computer history. Literature on "IT in government" goes back at least to the 1970s. E-government started as a practitioner field, basically convening practitioners struggling to meet the new challenges of the Internet medium by implementing new systems creatively. Ghana was one of the African countries where ICT usage was first experienced (Koh, 2003).

In government at a Glance 2011, and in the same vein; a similar perspective was presented by OECD (2003), asserting that Citizens and businesses increasingly prefer and use digital means to interact with governments. E-government, specifically the one dealing with voters' details has brought about a website where every citizen can log in to find out all the relevant information needed to successfully register with this Commission as a Valid Registered Voter in the Country (Chiger, Stephen 2002).

Despite the advantages offered by E-government, some challenges exist, like; extra movements are made since one has to go to a registering center for registration, make long queues, fill in a form, wait for some days/months/years to check on the list of registered citizens, when the list is out and a name was erroneously skipped, the concerned person will have to wait for some good time to get feedback some other time to be communicated and he and later registers, therefore, the service quality expected by the citizens is not received hence, resulting into disappointments and dissatisfaction of the citizens, this being one of the major reasons why the number of registered voters is low in some districts.

In the same stratum, Uganda Electoral Commission, did not successfully meet the sophisticated expectation of its citizens and output in terms of service quality as perceived in terms of Reliability, Responsiveness, Effectiveness and Efficiency as evidenced in the long queues in registration of voters. According to Schwart, (1975), nobody likes to be kept waiting because it is boring, time wasting and physically uncomfortable, no doubt waiting for a long time dissatisfies the client. Misplacement/omission of voters' names on the registry and rigging of votes that have brought about numerous complaints lodged by citizens; hence, questionable service quality as reported in the External and Internal Volunteers Report (2011).

The Second 2013/14, Africa Consortium; highlighted that Electoral Commission displayed the national voters' register online facilitating citizens to browse the entire register at their convenience, however, this has not worked since there is inadequate IT Infrastructure to use for both employees and citizens. There has also been an insufficient web accessibility since employees in the Electoral Commission cannot access some information when needed and lack of enough trained IT Human Resource (employees) to help train citizens, on how to use IT infrastructure and how to access the Electoral Commission Website.

According to the MoPS, the Government had been implementing a number of ICT performance management related measures in the past. These included the old confidential reporting system of the 1960's, Public Service Reforms, performance related contracts of the early 2000 and the E government of 2008. The introduction of e-government followed government's observation that the previous management system was suffering from what MoPS described as 'significance limitations' and short falls.

Therefore, it was envisaged that the introduction of e-government and its consequent implementation would enable Public Servants in the Civil Service to align their activities with that of the Ministries' objectives and by

implication deliver the strategic outcomes of the Government outlined in its Growth and Development Strategy (MGDS). In other words, it was expected that it would make the Civil Service more efficient and effective.

1.3 Problem Statement

This research grapples with e-government transformation in Uganda's Public Sector; its status, opportunities and challenges in accordance with the different government entities. From the look of things and based on experience from three of the Ministries; Gender, Labour and Social Development, Finance, Planning and Economic Development and Internal Affairs of the Republic of Uganda it appears that the idea of e-government is not getting any attention that it so deserves as some units are not implementing it. Indications show that some Ministries and Parastatals, for reasons known to them, are not implementing e-government at all despite a directive from MoPS advising ministries of the same. This study therefore further investigated e-government transformation in Uganda's Public Sector, its status, opportunities and possible challenges.

1.4 Rationale

To ascertain e-government transformation in Uganda's Public Sector; its status, achievements and challenges a periodic monitoring of its progress is duly required hence the need for this research. This involved identifying

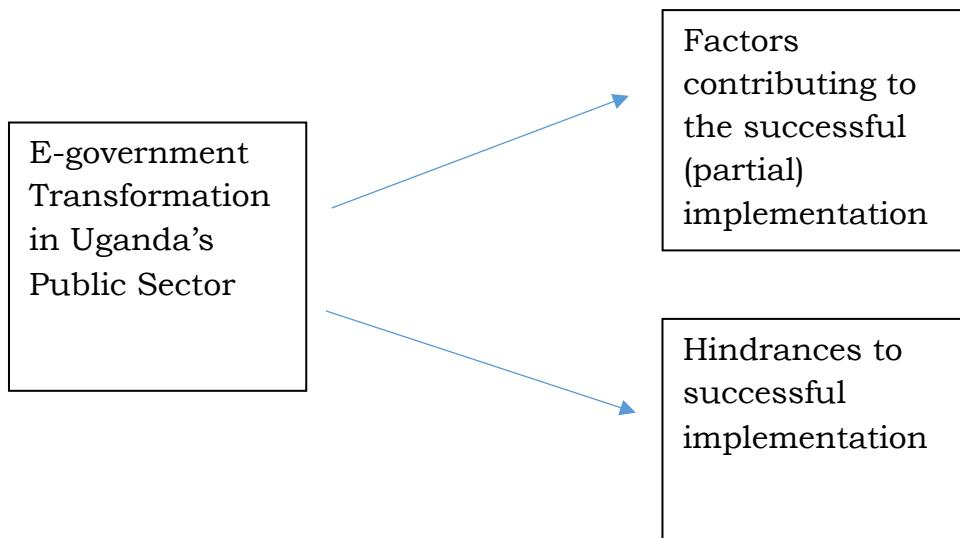
factors that facilitate its successful implementation or hinder its progress. Only through identification of the achievements and challenges and acting accordingly would the Government of Uganda make the best out of the initiative; that is; achieving its objective of improving Public Service Performance.

1.5 Research questions

The study sought to answer the following three main questions;

1. To what extent has e-government transformed Uganda's Public Sector?
2. What is the status of e-government in Uganda's Public Sector?
3. What are the opportunities or factors contributing to the successful implementation of e-government in Uganda's Public Sector?
4. What are the limitations/challenges of e-government implementation in Uganda's Public Sector?

Figure 1: Conceptual Framework



1.6 Research Objectives

In regard to the aims, this study achieved the following objectives;

- Found out the factors leading to the differential implementation of e government by different government entities
- Found out how e government as a policy is attaining its goals, its successes and failures
- Found out how e government is improving or limiting Public institutions' efficiency

1.7 Scope and nature of the research

The research focused on e-government transformation in Uganda's Public Sector; its status, achievements and challenges since its inception. This study covered four Ministries within the Civil Service and several parastatals from which data was collected. Much as the issue of e-government in the Public Sector concerns human resource management and development, the approach taken by this research was to treat e-governance for the Civil Service as a policy issue rather than necessarily a human resources issue. In brief this was a Public Policy and institutional analysis study.

1.8 Situational Analysis

This research was augmented by a qualitative survey on the current status of e-government related initiatives in the country. This exercise formed the basis on which the framework is formulated. While the documents reviewed included policy and legal frameworks, the survey focused on interviewing officials from core government ministries, departments and agencies directly involved in the provision of public service to the citizens and business.

Also, views and perceptions about e-Government were sought from the citizens and the business community. Specifically, the survey collected views regarding the current situation on e-Government focusing on awareness about e-government, Information and Communications Technology (ICT) usage in Public Service delivery, existence of e-Government infrastructure and investments, ICT planning, implementation, Monitoring and Evaluation, institutional and legal frameworks, and ICT human resources.

Other areas investigated included the benefits, opportunities, challenges and priorities of e-government for Uganda. The exercises revealed that people are aware of the e-Government program and there is generally a substantial amount of investment in e-Government/Telecommunications Infrastructure owing to Uganda's liberation policy of the telecommunication sector.

However, the application or usage of e-government infrastructure is still limited. Similarly, it was discovered that there is inadequate legal and regulatory framework to support the effective implementation of the e-Government program but even where the laws exist, the enforcement is very weak. More importantly, the planning, Monitoring and Evaluation of ICT activities was found to be weak with the institutional capacity equally weak demonstrated by low levels of qualified ICT staff and non-existence of ICT units in most government Ministries, Department and Agencies (MDAs).

CHAPTER TWO: Literature Review

2.1 Public Service

For lack of a current definition of Public Service, this study adopts the definition advanced by Adu (1969) who explains that the Public/Civil Service comprises of all servants of the state other than holders of Political and Judicial offices who are employed in a civil capacity and whose remuneration is paid wholly and directly out of moneys voted by parliament (Adu, 1969). In this case therefore, the Uganda Public Service will refer to the institutions (Ministries) and its staff (Civil Servants) which are run and paid for, respectively, by funds approved by parliament.

2.2 E-Government

E-government refers to the use of Information Technologies (IT) to improve the efficiency, effectiveness, transparency and responsibility of Public Services (Kraemer and King, 2003; World Bank, 2000).

E-government refers to the automated procedures and interaction for sharing the flow of information services through the internet for a well-balanced government (Coleman, 2006).

E-government may also refer to the use of the Internet and the World Wide Web to deliver government information to its citizens (UN & ASPA, 2002:1).

E government can further be defined as the process of using information technology to deliver government services directly to the customer 24/7. The customer can be a citizen, a business or even another government entity. Hernon (cited in Duffy, 2000).

Kumar et al. (2007) states that e-government is basically a tool concerned with improving services to all (G2C, G2B, G2G); whereas Ho (2002) views it as a paradigm shift in government through enhancing accountability.

Government-to-Business (G2B)

According to (Forman, 2002), G2B is the service that can facilitate the communication between government and business agencies. The connection between the government and the business companies can be vital both ways. It reduces the redundancy about the business agencies for the government and reduces the time and the cost to process a certain service for the businesses, which brings about transparency in revenue collection, making it easier for the government to view all the updates on policies and laws. Downloading application forms, getting new or renewing licenses are examples for the kind of the services that G2B can provide.

Government-to-Employee (G2E)

G2E provides services specifically to the employees which can help them understand the government laws and regulations; moreover, providing this kind of service can enhance the administrative process, reduce time to complete a certain service, and decrease the number of the employees to work on a specific process (Ebrahim, 2005).

E-Readiness

Before working on the implementation of e-government projects, a government ought to work on e-readiness first. This is important because it is crucial to determine if a country is ready to move from the traditional system to the electronic system. According to (Alshehri, 2012), e-readiness is defined as the measurement for a country's ability to get the benefits from its digital economy.

(Peters, 2005) defines e-readiness as an assessment tool that is used by a government to help make their decision about the readiness of a government for moving to an electronic system. E-readiness assessment consists of four steps which are determining the targets of the project and trying to choose a proper assessment tool, conducting the e-readiness assessment, establishing a comprehensive action plan, and implementing the plan.

According to (Verma, Mohan Das, & Kalra, 2005), the e-readiness assessment tools are viewed as radical, yet unavoidable transformation projects. The implementation of e-government systems has been attracting increased research interest, and is believed to constitute one of the most important IT implementation and Organizational change challenges of the future (Warkentin et al., 2002; Marche and McNiven, 2003). According to some estimates, e-government systems are already helping save 2% of the annual US GDP (UNDP, 2001). However, the realized savings are still far less than what is potentially possible. For example, World Bank (2000) figures indicate that even the countries that are most advanced in the implementation of e-government systems are only able to capture 20% of their real savings potential.

Verma, Mohan Das, & Kalra, 2005 further point out that e-readiness assessment tools deal with one or more of the following topics:

Physical infrastructure; this tool covers all the telecommunications' infrastructure, such as internet access, pricing, and bandwidth. It also includes hardware, national and state level data centers, security infrastructure, and service gateways/payment gateways. Human Capacity which deals with human aspects such as literacy and ICT literacy. Policy environment, which is about the laws, rules, and regulatory environment, such as trade policy, privacy policy, and Intellectual Property Rights (IPR) Protection, legal

recognition of digital signatures, and telecommunication policy. ICT Usage, which deals with the usage of ICT in society, homes, and government by citizens, government, and businesses. Financial, this includes financial institutions, financial resources, and budgetary allocation.

Furthermore, there are many other tools used for e-readiness assessment where each has its own goals due to the fact that the government needs to determine its aims before choosing a tool. The following however are some of the tools were used to develop different international bodies;

Computer Systems Policy Project (CSPP)

According to (Verma et al., 2005), the CSPP developed a guide which is used to determine the networked readiness for a country, it was published in 1998. CSPP has five categories that are inter linked where each category has a different question;

- The network (Infrastructure); the backbone technologies that connect to the network, availability, pricing, quality of ICT, also services and equipment.
- Networked Places (Access); where are the places to connect to the Internet and when?
- Networked Applications and Services: this sector is about how to make the connection meaningful.

- Networked Economy: the relation between the network and economy, and the role of the technology in driving the economy.
- Networked World Enablers: is about the levers expediting the Networked World.

Center for International Development (CID)

According to (Sachs, n.d), the CID guide was developed at Harvard University in 2000, this guide helps the developing countries to distinguish their networked readiness. It includes five categories which are also inter-linked and the results determine the specific government's e-government readiness;

- Network access, asking about the availability, services, cost, and equipment of ICT networks
- Network learning, see if the ICT integrates in the educational system increase e-literacy. Also, see if there are programs to train the citizens and prepare them for the new technology for success with the project in the future.
- Network society, is about how the people are using it in their lives and work?
- Network economy, check how government and business are using the technologies to interact with the public sector and with each other.

- Network policy, to see how the policy environment can support or hinder the growth of the ICT.

Asian Pacific Economic Cooperation (APEC)

APEC and the Electronic Commerce Steering Group developed this guide and its goal was to enhance the e-commerce environment. It consists of six indicators;

- Telecommunication Infrastructure and Technology Base; this is about the speed, market competition, pricing, foreign investment, and industry standards.
- Access and Supporting services; includes the bandwidth, credit card regulation, and expert controls.
- Level and Type of Use of the Internet; about the number of the internet users in business, government, and homes.
- Awareness and Promotion; it is about the industry standards.
- Skills and Human Resources; the government efforts to strengthen the ICT education and training
- Policy positioning; this includes the legal framework, taxation, tariffs, regulation of encryption technology, and copyright protections.

McConnell International's Risk E-Business

According to (Verma et al., 2005), McConnell International in collaboration with the World Information Technology and Services Alliance (WITSA) prepared a guide to a nation economy's e-readiness, it was released at 2000.

This model measures five areas;

- Connectivity (infrastructure, access, and pricing).
- Information Security (privacy, electronic signatures, and intellectual property).
- Human Capital (ICT education, available skilled workforce).
- E-leadership (government policies and regulations).
- E-business (Competition, foreign investment, and financial infrastructure).

2.3 E-government Benefits

Moving from the legacy system to the electronic system brings many benefits to all the stockholders, which are government, citizens, and businesses. Many researchers are using different ways to present the benefits of e-governments. (Ebrahim, 2005) identified some of the benefits for e-government and categorized them into four;

Internal

- Improving government efficiency by involving the citizens in the democratic process and decision-making.
- Improving government transparency in all departments in order to improve on the quality of data and services
- Improving the management process in order to organize and decrease the complexity of the workflows for both the government and business.

External

- Increasing the response for both the citizens' and private sector
- Increasing the collaboration between the government and the private sector
- Improving the transactions process over the Internet by digitalizing procurement in collaboration with the private sector

Operational

- Improving accountability of all government transactions
- Improving government efficiency by enhancing availability and accessibility to government data and services. The government ought to provide services 24 hours per day, 7 days a week to both citizens and the business community
- Improving the quality of employees' work.
- Reducing time to process certain services.

- Reducing the cost of spending to process a service for citizens and businesses.

Technical

- Improving the connection between the government bodies by sharing the data.
- Improving the ICT for government agencies.
- Reducing the redundancy of data and processes.

Kanaan, 2009 further classified e-government benefits into different perspectives, where both the government have to contribute and benefit in different ways.

Government

- Improving the quality of the services
- Minimizing costs and time
- Provision of services 24 hours a day
- Reducing the bureaucracy
- Minimizing duplication between different government entities and departments
- Minimizing errors that are common with the manual system
- Reducing corruption tendencies

Citizens and business customers

- Accessing services 24/7.
- Increasing citizens' participation in the decision-making and democratic activities.
- Increasing transparency.
- Bridging the digital gap/divide divide by providing places to put computers, so citizens who have no access to the Internet or do not have a computer can use the online services.

E-government in South Korea has actively been pursued as a crucial means to make its government more competitive, by leveraging the world's best information and communications technology (IT) including broadband Internet. The Korean government has concentrated on 11 major tasks for e-Government (2001~2002) and 31 major tasks for the e-government roadmap (2003~2007). As a result, e-government has become firmly established in all areas of the Korean government (Ministry of Public Administration and Security, Rep. of Korea, 2010).

Moreover, implementation failures of e-government systems are also common and often lead to adverse financial consequences (e.g. the Gires project in Québec or the Canadian Firearms Registry which cost 400M\$ and 1 billion \$, respectively (Radio Canada, 2003). Despite the potentially significant impacts

of e-government systems on Public Administration, Organizations, individuals and society, there is presently a dearth of systematic and thorough study on the subject (Jaeger, 2003; Kraemer and King, 2003). In addition, the research themes, as well as the research approaches and perspectives employed in the study of e-government implementation also exhibit significant diversity, making it difficult to reach conceptual clarity on the subject (Grönlund, 2005).

Finally, several authors remain skeptical (Kallinikos, 2003 and 2004; Kraemer and King, 2003) regarding the relevance of a radical transformation of the Public Bureaucratic Model, with others seriously questioning the viability of the outcomes that result from IT-led transformations of institutionalized governmental processes (Ciborra, 2005; Du Gay, 2003 and 2004; Kallinikos, 2004; Stokes and Clegg, 2002). Given the importance and complexity of the topic, and the lack of published comprehensive literature reviews of e-government adoption and acceptance, this research will provide a synthesis of existing empirical findings and theoretical perspectives on this subject, and presents the theoretical premises of a conceptual framework that will reflect the multi-level and multi-dimensional nature of the adoption and acceptance of e-government systems.

2.4 PAST RESEARCH ON E-GOVERNMENT ADOPTION AND ACCEPTANCE IN PUBLIC SERVICE

Three data sources will provide the input for our literature review of e-Government adoption and acceptance;

- 1) The Korean Journal of Policy Studies, Strategic Innovation, Knowledge sharing and Policy Innovation. Factors of E-government in developing countries. The case study of Tanzania (Lupilya E and Park J, 2015).
- 2) Government Information Quarterly, Information Systems Research, International Journal of Electronic Government Research, Journal of MIS, MIS Quarterly, Organization Studies, Organization Science, Public Administration Review, and Social Science Computer Review,
- 3) AMCIS, ICIS and HICSS conference proceedings. This research will target the identification of articles published since 1990 that presented either reviews and studies of e-government adoption or acceptance. It should be noted that electronic government is a multi-faced concept that can involve four types of stakeholders (government, citizens, businesses, and employees) in five use contexts: Government-to-Citizen (G2C), Government-to-Business (G2B), Government-to-Employee (G2E), Government-to-Government (G2G), and

Internal Efficiency and Effectiveness of e-government systems (IEE). While past e-government implementation efforts have focused mainly on internal efficiency and effectiveness (IEE) (Kraemer and King, 2006), current e-government initiatives are more centered on networked electronic provision of services to the four types of stakeholders identified above. The present review includes all studies related to e-government adoption and acceptance in the five different use contexts listed above.

As the present review is specifically focused on e-government adoption and acceptance, it represents a more focused and fine-grained complement to recent reviews of the more general e-government literature, for example Andersen and Henriksen, 2005; Grönlund, 2005; Norris and Lloyd, 2006). In fact, the adoption and acceptance studies that will be targeted by this research correspond to two of the four e-government contextual research domains identified by Andersen and Henriksen, 2005 which are; diffusion management and administrative e-services.

This research will further focus on the selection of articles published in top IS, Public Administration and Organization studies journals, as well as in top IS Academic Conference proceedings. However, it should be acknowledged that, while our review is aiming at synthesizing a significant portion of e-government adoption and acceptance research, it might inevitably leave out some segments. Studying e-government adoption at a national level,

Srivastava and Teo (2006a, 2006b) found that ICT infrastructure, technology development and the quality of human capital had a significant effect on e-government development. Finally, some studies adopted an interpretive approach to tackle the complex phenomena underlying e-government adoption. For example, Sorrentino (2005) argued that, by taking that into account overlooked factors such as "the degree of autonomy/heteronomy of actors, their level of discretionary power and the coordination arrangements among them, a process-oriented perspective provides a richer understanding of e-government implementation and adoption. In the same vein, Scatolini and Cordella (2005) found, through an action research study, that the "defense of political bonds" was the most salient resistance factor to IT adoption in a government setting. They also found that "Organizational Climate" and "decision making and responsibility assumption" were strong determinants of Organizational innovation.

In sum, the importance of Organizational and individual characteristics on e-government adoption appears to have been clearly established. However, future research related to the influence of these factors would probably gain much explanatory power if more longitudinal studies were conducted and if institutional factors (Gasco, 2003) were simultaneously considered as possible major influences affecting organizational or individual intention to adopt e-government systems.

2.5 The Current Status of E-government

According to the United Nations E-government survey 2018, Uganda's online service index has improved from 50% in 2016 to 57% as of 2018. This survey is the only global report that assesses the e-government development status of all member states of the United Nations. It measures the status of e-government development in all the United Nations member states. It examines how digital technologies and innovations impact the Public Sector and change people's lives in an effort to improve service delivery.

2.5.1 Research Framework of E-government Adoption and Acceptance

Our literature search identified 99 articles published between January 2007 and February 2017 on e-government adoption and acceptance. Compared to previous literature reviews on e-government (Andersen and Henriksen, 2005; Grönlund, 2005b; Norris and Lloyd, 2006), the present search adopted a drill down approach by specifically focusing on findings related to e-government adoption within two contextual e-government research domains identified by Andersen and Henriksen (2005): 1) diffusion management and 2) administrative e-services. Contrary to Grönlund (2005b), but consistent with Andersen and Henriksen (2005) and Norris and Lloyd (2006), we found that theory testing papers represented a large portion of e-government adoption research (59% of the 99 papers) with 31% having conducted field surveys and 28% case studies. Conceptual papers were also significant in that they

represented 22% of the 99 papers. As our sampling frame, time period and focus differ from the literature reviews mentioned above, the present review complements and extends these earlier studies by providing a synthesis of the factors that enable or inhibit e-government adoption and acceptance.

More specifically, the present research identified four main categories of factors that influence e-government adoption and acceptance, and one of these categories is related to the consequences of e-government adoption. The studies of the first category aim at identifying and measuring specific management strategies and actions that can influence e-government adoption and acceptance. The most significant factors identified within this category include top management/political support and the use of a clear and well-executed process reengineering strategy.

The second category include research aimed at identifying specific Organizational or individual characteristics affecting e-government adoption and acceptance. Within this research stream, process integration, political issues, financial resources, size, perceived usefulness and trust were found to be the most significant antecedents.

The studies in the third category focused on examining how cultural differences affected e-government acceptance and finding that the existence

of governmental sub-cultures resulted in different motivations and patterns of adoption.

The fourth category of research investigated the influence of IT design characteristics on e-government adoption and acceptance, identifying perceived security, privacy, accessibility, usability and confidentiality as the most significant antecedents.

Finally, the fifth category of studies focused on the assessment of the consequences of e-government adoption and acceptance, generally finding that the measurement of adoption outcomes was tightly linked with the extent of process reengineering induced by e-government implementation, as well as with the type of measures used to assess the benefits of e-government adoption.

Several researchers have pointed out that the complex interdependencies and interactions that exist between Organizational, managerial, technical, political and individual factors are key to understanding e-government adoption and acceptance (Andersen and Henriksen, 2005; Dawes et al. 2003; Gasco, 2003; Grönlund, 2005a; Kraemer and King, 2003; Pardo et al. 2004; Roy, 2005; Scholl, 2005). However, in the 99 articles that were identified, none were found to conceptualize the multi-dimensional and multi-level nature of e-government adoption and acceptance or to systematically theorize and

measure these interactions and complex relationships. As many empirical studies have been based on strict replications of established frameworks related to the IS literature (eg. TAM, or UTAUT models with extensions such as trust or self-efficacy etc.), or to the change management literature (eg. BPR models and maturity stage models), their explanatory power remains limited. In particular, past e-government adoption and acceptance research has not been able to explain the significant discrepancies in the levels of adoption and effective usage that have been observed among public agencies (Andersen and Henriksen, 2006, Grönlund, 2005, Norris, 2005).

In summary, In order to overcome the limitations of past approaches, I recommend that an effective e-government adoption and acceptance model not only identify the factors that influence the net-enablement of Public Administration, but conceptualize the interdependencies and non-linear relationships that exist between these factors as well. We also believe that a framework that combines the Dynamic Capability Theory (DCT) (Eisenhardt and Martin, 2000; Nelson and Winter, 1982; Pentland and Rueter, 1994; Teece et al. 1997) and the Theory of Complementarities (TC) (Barua et al. 1996; Levina and Ross, 2003; Milgrom and Roberts, 1995a; 1995b; Samuelson, 1974, Whittington and Pettigrew, 2003) can provide a useful starting point for that purpose. First, DCT may help fully conceptualize and take into account the overlooked implications of the net-enabled customer focus of actual e-

government initiatives (Ho, 2002). Net-enablement refers to an Organization's ability to electronically "execute transactions, rapidly exchange information, and innovate at an unprecedented pace" by means of digital networks (Wheeler, 2002).

CHAPTER THREE: Research Methodology

3.1 Introduction

This chapter explains the design and research methodology that was used to help answer the research question. It explains the methodology, tools used to collect data and the distribution of the respondents. Attempts have been made to explain, though briefly, how the selected design and data collection tools are considered as appropriate for the research topic and why the tools selected are most suited to provide the data needed to answer the research question.

3.2. The Research Design and Purpose

This research serves two purposes, that is; exploring and explaining a phenomenon. Much as it has been seen in the literature review that a lot has been written on e-government management, it is also a fact that the issues surrounding its transformation in Uganda's Public Sector is not exhaustive. This being the case, the study undertook to explore this little known phenomenon by investigating e-government's transformation in Uganda's Public Sector, examining closely its status, the factors favoring its successful implementation where it is being successfully implemented/achievements and

the challenges faced during the implementation process/hindering its implementation.

According to Neuman (2011) you explore when little is known about the issue being investigated. Furthermore, the study attempted to make sense of the findings by explaining the transformation of e-government in Uganda's Public Sector. In this case the research is considered to be explanatory as well.

Hypothesis 1: E-government applicability leads to improved service delivery in the public sector.

Hypothesis 2: The provision of ICT training skills leads to improved e-government applicability.

3.3 The Methodology

The study employed a qualitative research methodology since little has been known about the ontology (reality) of the problem as earlier indicated in the literature review. The methodology was also selected based on the understanding of Civil Servants as subjects. Public Servants are best suited to provide the insight of the social world of which they are part of. (Plooy, 2002) Furthermore, as a researcher conducting this kind of research, I believe that the transformation of e-government in Uganda's Public Sector could best be

described in terms of the meaning that they (Civil Servants) attach to experience rather than from generalization or some universally agreed laws as is the case in quantitative approach.

In addition, no study known to this researcher, has so far been conducted to enable the establishment of parameters to examine. This being the case, the researcher agrees with (Creswell, 2002) who states that qualitative approach would be suited when one was trying to understand a concept or phenomena where little research has been done.

The introduction of an e-government system in Uganda's Public Sector is quite a new phenomenon. Not much is known about its transformation, be it its status, achievements or challenges. This speaks volume on the confusion that is there, hence approaching the problem from a qualitative approach.

3.3.1 Data collection

The study used a questionnaire administered interview system to obtain primary data for analysis.

3.3.1.1. Primary data

3.3.1.1.1 Interviews and questionnaires

The study used interviews as a technique to get data. An interview according to Gubrium and Holstein (2002) in Marvast (2004) is a “way of generating empirical data about a social world by asking people to talk about their lives”. This type of technique ‘allows the interviewer to discover the respondent’s ideas, views, suggestions and queries, it further allows the respondent more freedom in responding his or her own word’ (Plooy, 2002). This technique was selected because the study’s aim was to explore the unknown by getting information from those that create the social world. The approach was time consuming because it involved the researcher recording all that was said. Nevertheless, the semi structured interview opened doors for an opportunity to explore other important aspects which had been overlooked in the questionnaires.

3.3.1.1.2. Secondary Analysis

The researcher used existing documents in addition to the interviews and questionnaires as sources of data for analysis of particular interest such as academic journals and government documents which critically analyze

Uganda's e-government in particular. The existing documents acted as a scaffolding to help build a data bank for analysis.

3.3.2 Method of Data Analysis

The research findings were analyzed using a combination of two techniques; method of agreement to identify common cause among different cases and the narrative analysis. Among its features the later technique according to Neuman (2011) involves subjects that act and make choices and this corresponds with the sampling approach chosen for interviews. Using various tools the narrative analysis, according to (Neuman, 2011), can be used to describe social forces and explain why events occur as they do. The researcher attempted to explain how an occurrence of one event (or factor) is dependent on another (dependency) or rather if there is a correlation between two different factors.

3.4. Reliability and validity of the study

According to Neuman (2011) reliability refers to the dependability or consistency of the data. The researcher used reliable sources such as responsible Civil/Public Servants in decision making positions during the data collection process in an effort to ensure consistency during all interviews.

3.4.1. Ethical considerations

According to Neuman (2011:143) ethics is defined as what is or is not legitimate to do or what ‘moral’ research procedure involves. In carrying out this study, attention has been made to ensure that a code of ethics required in conducting research is adhered to. Among the ethical considerations observed by the researcher in the course of collecting data and writing this report includes desisting from research fraud such as plagiarism, seeking consent from the participants (respondents) before interviewing them and maintaining utmost confidentiality.

3.5 Summary

In summary this chapter discusses the following key issues; explaining the research design and methodology, the significance of the study, limitations and ethical considerations, the two instruments for collecting data, sampling and the method for data analysis used in the study.

CHAPTER FOUR: Findings and Limitations of the study

In this chapter, the summary of the findings, analysis, conclusions and policy recommendations are presented. The findings sub-section presents the information that was extracted from the questionnaire data that was collected from the different middle level government officials from different Ministries/government entities. The data was then analyzed to find out the status of e-government transformation in Uganda's Public Sector, its challenges and opportunities. Finally the conclusions are made and policy recommendations on how to fully implement and have a wider coverage of e-government in all Public entities for improved efficiency, accountability and transparency.

4.1 Findings

E-government Transformation

E-Government transformation within Uganda will entail meeting the need for rural and urban administrations to access Public Services, communicate and transact with government through mechanisms that are appropriate to their respective situations.

NITA-U

NITA under the Ministry of ICT and National Governance has continued to work towards the achievement of e-government implementation in all government entities. The Directorate of E-Governance under NITA is mandated by the NITA-U Act 2009 to promote and establish e-government, e-commerce, and other e-transactions in Uganda.

4.1.1 E-government Implementation by Specific Government Entities

It was discovered through this research that different sections of the government are applying e-governance in their day to day activities for instance the Ministry of Finance, Planning and Economic Development together with the Ministry of Public Service through IFMS (Integrated Financial Management System) through which all Civil Servants are paid their salaries, this has minimized issues of identity duplication, ghost employees as well as having a clear follow up about who get what, who works where, who and who retires when. This has brought about transparency and saved the government a lot of money that could have been wasted due to a poor follow up system.

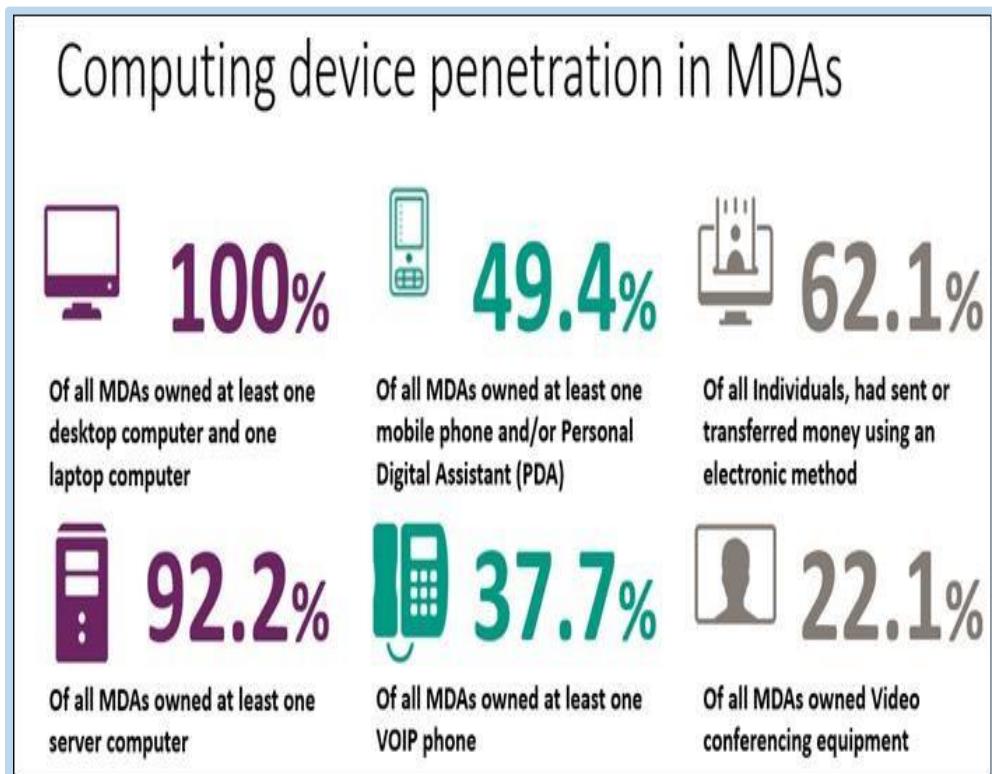
The variables that were measured as a result of e-government implementation were Civil Servants actively using e-government tools in their day to day service delivery/work, beneficiaries using e-government to access services,

and those using e-government for their day to day business transactions with the government, that is; G2G, G2B, G2C, G2E.

It was further discovered that there is a development of shared service centers which present an opportunity to leverage the considerable investment the Government has made in ICT infrastructure to develop a range of whole-of-government service delivery platforms. Where a whole-of-government directory services, common email naming conventions and a whole-of-government information architecture are examples of projects that build upon the concept of the shared service centers.

Figure 2

Computing devices penetration in Ministries, Departments and Agencies



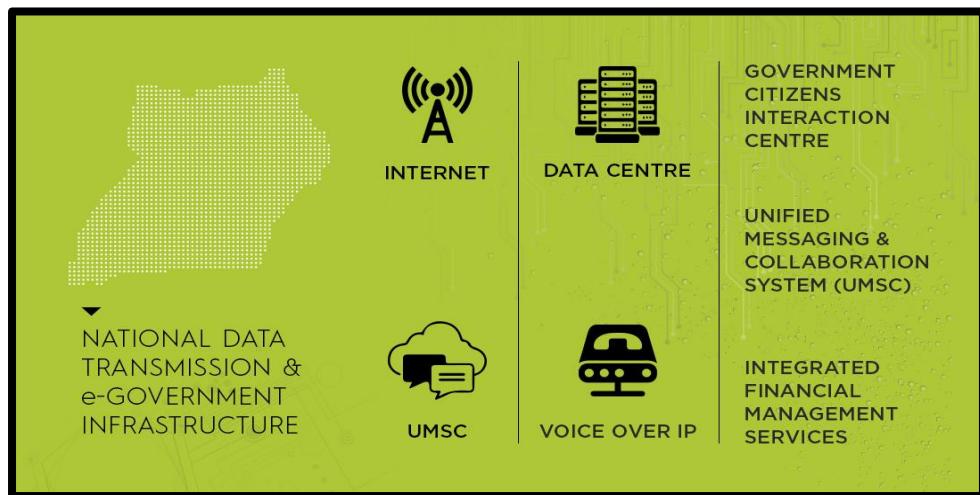
Source: MoICT

Currently, the e-government program provides the following benefits; improved services and convenience to citizens, improved the productivity (and efficiency) of government agencies, creating a more accountable government, increased transparency and minimizing corruption, empowering public access to information/records in possession of the state or public body, so as to effectively scrutinize and participate in government decisions that affect them,

improving the quality of life for disadvantaged communities, promoting gender equality and minimizing the national digital divide, strengthening good governance, broadening public participation and promoting democracy, strengthening the legal system and law enforcement, facilitating commerce and services for businesses online as well as making the private sector more competitive by reducing the cost transaction with the government, for instance through e-procurement and e-tax collection.

Figure 3

Current e-government implementation in Uganda's public sector



Source: MoICT

NSWC

The National Water and Sewerage Corporation involves e-governance through the use of different eservices; for instance, the e-water payment system, establishment of a NWSC mobile app, monthly online statements, transactions and e-bills which a customer can access at anytime, anywhere at their own convenience.

URA

The Uganda Revenue Authority is a body embedded with the collection of taxes, it is the only government entity that most applies e-government in its day to day services. Some of its e-services are; the e-payment system. E-motor vehicle registration and transfer, e-tax registration, e-employee registration, e-recruitment system to mention but a few.

UBOS

Uganda Bureau of Statistics is the entity of the Ugandan Government mandated with data collection, processing, analyzing and dissemination. It is an agency responsible for the coordination and supervision of the National statistical system. This entity practices e-governance in different ways such as; Arc-data, countrystat, GeoNode, UGSTATS-Mobile app, NSO-Open data to mention but a few.

NIRA

National Identification and Registration Authority is mandated with the registration of all citizens in the country and provision of national identification cards, registration of births and provision of birth certificates. It has involved the use of ICT, e-government to be specific by allowing online services like the filling in forms for e-birth registration, e-citizen national identity card application to mention but a few.

Figure 3

Some of the responses given by both Civil Servants and Civil Service beneficiaries on e-government

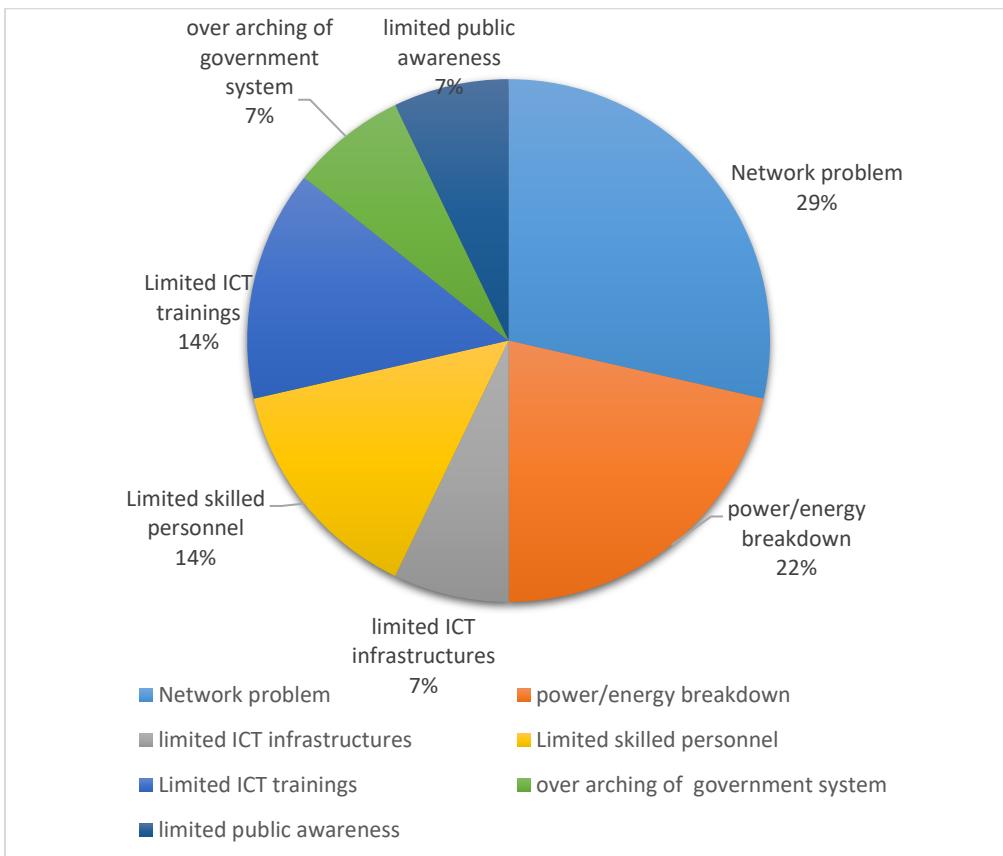
Respondent Category	Age	Response
Civil Servant	35 years	I like and can easily adapt to e-government usage/implementation anytime anywhere
Civil Servant	29 years	Yes, I like and I am practicing e-government in my day to day activities
Civil Servant	53 years	Not sure, I would have wanted to practice e-government but it's a bit hard for me

Civil Servant	41 years	Not sure, I prefer doing my work the manual way
Business Person	26 years	Yes, especially the URA e-tax system
Business Person	39 years	Yes, I like using e-government when registering and transferring my vehicles on importation and change of ownership respectively
Business Person	63 years	No, I don't like using e-government services, it is too hard for me, I prefer the manual way
Business Person	33 years	Yes, the e-government system of tax collection makes my work easier anywhere anytime
Local Citizen	60 years	No, the whole system (NIRA e-government system) is too complicated and hard to understand
Local Citizen	44 years	Not sure, I can only use the NIRA and URSB e-government system when assisted

Local Citizen	21 years	No, I don't even know of any e-government systems in this country
Local Citizen	36 years	Not sure, I don't really know what to say about e-government services in this country

By the responses from the questionnaires distributed, it is evident that e-government is more likely to be accepted by the younger generation compared to the older generation, over 60% of the respondents below the age of 40 understand the concept of e-governance, be it those in Civil Service or business. However, the local lay man in Uganda hardly understands the overall e-government concept. Many of those interviewed did not even know what ICT/e-government means, where it is implemented or even how to use it given the fact that the majority are illiterate and can therefore not use the computer through which to access such services unless with someone's help.

4.2 E-government Implementation Hindrances



There is considerable potential for e-government initiatives to bring both economic and social benefits to the local governments. Improved ICT infrastructure can provide flow-on benefits to business and residential users, and improved access to government services that can enhance the viability of small rural communities.

This research was carried out with an objective of assessing the level of e-government applicability in Uganda's Public Sector, its current status,

challenges and opportunities. Then finally come up with possible recommendations as solutions to the hindrances identified.

Concerning e-government implementation in Uganda's Public Sector, the researcher identified six guiding principles which are meant to act as the 'critical questions' that test all the decisions made in relation to developing e-government initiatives. These principles are; Citizen-centric, accessibility and choice, trust Confidence and security, better governance, collaboration and integrity as well as accountability.

The GOU recognizes the need for developing and implementing a national e-government program aimed at the efficient use of ICT in public administration in order to improve public service delivery and democratic processes and also to enhance the attainment of the Sustainable Development Goals (SDGs).

The Uganda MoICT came up with six objectives towards successful implementation of e-government in all Public entities as a way of ensuring online accessibility of all government services and opportunities in a friendly, transparent and efficient manner for all sections of the society.

The Ministry further aims to enhance and promote the efficiency and transparency in the functioning of government through the increased use of ICT for online service delivery to citizens and business.

4.2.1 The Current E-government Objectives in Uganda are as follows;

- To continuously improve the efficiency of, and access to government information and services to meet citizen's expectations
- To use the successful development of the e-government initiative to promote Uganda, as an Information Technology center for excellence in Africa.
- To establish leadership and partnerships that advance e-government services.
- To develop and maintain a secure seamless and comprehensive e-Government interface (one-stop center integrated service delivery mechanisms).
- To manage the cost of e-government implementation through effective use of technology.
- To institutionalize the use of e-government information and services through the adoption of appropriate organizational models.
- To encourage the use of open source software in order to reduce the amount of money spent by the government on licensing proprietary software and encourage innovation in enterprise platform software development.

4.3 Uganda's E-government Initiative

The government of Uganda has initiated e-governance through focusing on the use of ICT in the day to day transaction of government services. This is done in an effort to transform government operations and structure for enhanced service delivery. Several government entities have implemented e-governance through different computerization projects. Some of the areas of e-government implementation in Uganda's Public Sector include; the Customs and Immigration Control, e-Parliament, e-Health, e-Banking, e-Procurement, e-Commerce, e-Tourism, and Meteorological and Tidal Information.

This research therefore identified harmonized policies and strategies, legal and regulatory framework, crosscutting issues (education, infrastructure, poverty reduction and gender, coordination, monitoring and benchmarking as the major critical enabling factors for the effective implementation of e-government transformation in Uganda's Public Sector. This initiative has emphasized on the need for a strong back-up support of legislations on data security, network security, cybercrime, information systems and electronic transactions.

This initiative has further sought and is continuing to seek for a need to use Information and Communications Technology (ICT) to transform

the delivery of government services to the betterment of the people of the Uganda.

4.4 E-government Challenges in Uganda's Public Sector

E-government challenges in Uganda can be categorized into five; technical issues, organizational issues, financial issues, social issues and resource issues.

Technical issues

Under technical issues there are a number of factors that are hindrances to e-government implementation, as analyzed below;

- ICT Infrastructure

Implementing e-government can be costly especially to low developed economies like Uganda because it needs advanced systems which also rely entirely on electricity yet the coverage in some areas is low. There is therefore need for technical expertise and a wider electricity coverage especially in the rural areas (local governments). Governments also ought to create about a link between their different departments in order to easily share the information and avoid the redundancy and duplication in data/applications (Almarabeh & AbuAli, 2010).

- Provision of access to information

The Government of Uganda ought to solve the problem of paper based database, there is a need to convert all such documents into a digitalized form for easy storage, accessibility and maintenance and doing this requires high expertise, time and incurs a lot of costs.

- Provision of privacy and security of information

There's need for the Government of Uganda to secure citizens' information and restricted access to confidential data, safe guarding it from hackers and cyber threats. For citizens to trust any of these e-government policies and applications their information/data ought to be fully secured. Security means provision of a secure method against any unauthorized access to the data (Alshehri, 2012).

Social Issues

- Resistance

Citizens and civil servants are always rigid to change, they hardly adapt to new technology due to different reason why they often take long to adjust to new technology hence an obstacle towards the implementation and adjustment to e-government.

- Digital divide

Digital Divide refers to the gap between people who have access to the Internet and people who have no access and are unable to get the benefits of the e-government services (OECD JOURNAL ON BUDGETING, 2003). This is one of the major challenges to e-government implementation in developing countries, Uganda to be specific. Despite the lack of electricity in some local governments, there is also lack of access to computers and the internet.

Financial Issues

- Budget

Implementing e-government is expensive and needs a high support from the government to implement it successfully. The spending needs are for hardware and software, training the staff, maintenance the systems and upgrade them, places, electricity, and cooling systems.

Resource Issues

- Staff

There is need for training of staff in charge of e-government in order for them to acquire skills on how to manage and control all equipment and applications. Such training needs expertise which is so costly and hardly accessible as there are not many Ugandans with a background in e-governance.

- Equipment

Given the fact that e-government implementation involves the use of high technology equipment like computers, tablets, IPod and so on it is hard to make such equipment easily accessible in all regions of the country and even where they exist, few of the staff can make use of them effectively and efficiently hence a hindrance to e-government implementation.

Organizational Issues

- Policy and regulation

E-government implementation needs rules, policies, and laws to control, manage and secure online services so as to gain citizens' trust. Lack of transaction rules and laws increases chances of cybercrimes, and other computer misuse activities (Almarabeh & AbuAli, 2010).

- Political Support

In order to achieve e-government success there is need to lobby for political support (Hussein, Mohamed, Abdul Karim, & Ahlam, 2007).

Such support can either be financial through provision of an independent budget to specifically cater for issues to do with ICT infrastructure, staff training, and sensitization of citizens about how, why and when to adopt e-governance. Sanchez, Koh, Kappelman, & Prybutok, (2003) identifies a

resistance from government leaders towards any change such as e-governance since they see it as a threat to their power due to the transparency it comes with.

4.4.1 Limitations of the study

In any research exercise they are bound to be problems which if not well managed could affect the progress and quality of the research. Limitations on the other hand are issues that may slow or hinder progress of the research, in this regard therefore; a few limitations were encountered during this research as follows;

Limited sample size, the sample size surveyed on during this research was too small due to the fact that there was not enough time to cover a wide scope/population, for this reason the results collected were only close to accurate.

Lack of enough previous studies on the issue at hand, given the fact that a literature review is the most important part of any research, there is need to review previous findings as a foundation to build upon in order to achieve the intended research objectives. In this case however, it was hard for the researcher to find related literature on e-government implementation in

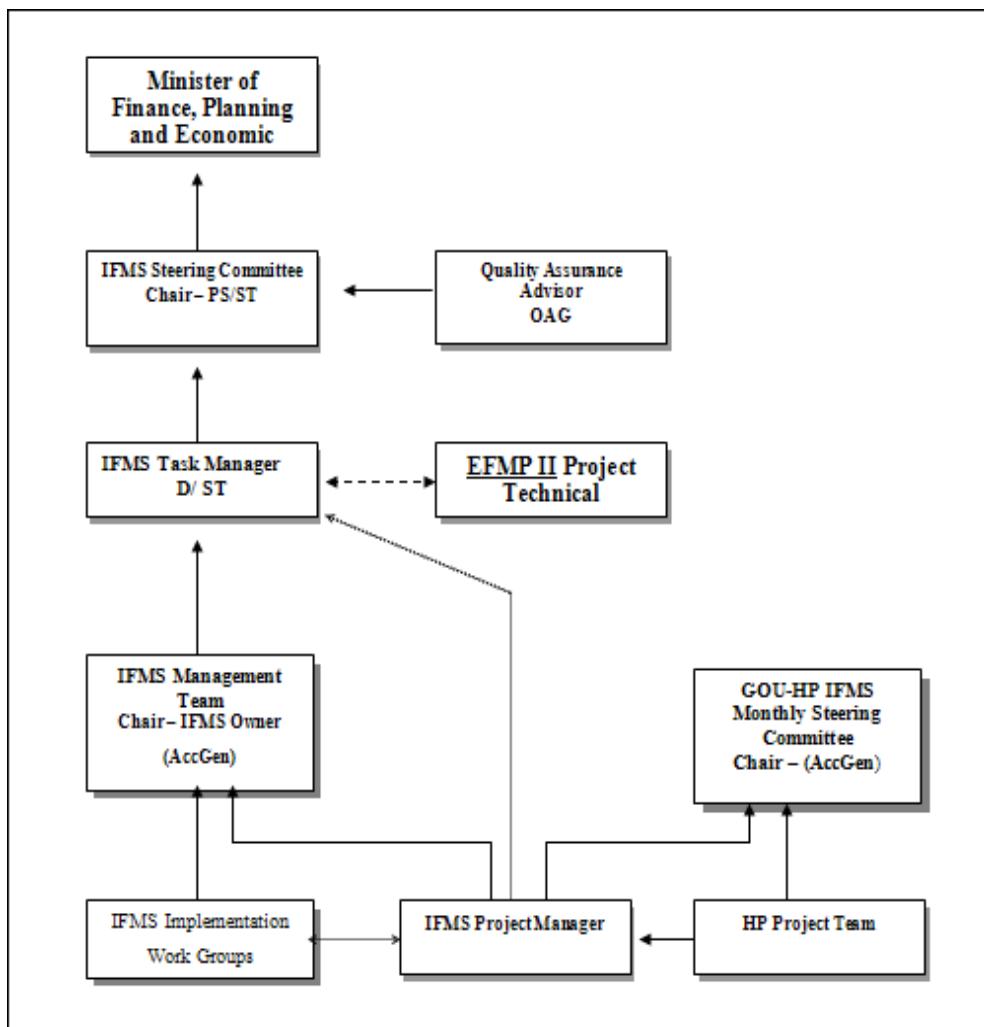
Uganda's Public Sector due to the fact that e-government in Uganda is just a recent phenomenon.

Implementation of the data collection method, there was a limitation in the data collection method since the researcher did not have much experience in primary data collection neither did she have enough time to stay at the data collection scene. For that reason, the data collection method was flawed.

Measures of collecting data, the data collection measures used by the researcher were appropriate then but later discovered to be lacking in some way. For instance the scope coverage would have been wider given a chance that the researcher had more time, the questionnaires applied would have been more detailed but were minimized due to the unavailability of time.

Figure 4

IFMS Governance Structure



Source: MOFPED

CHAPTER FIVE: Conclusion and Recommendations

This chapter lists the limitations encountered during this whole research process while conclusions are also made.

5.1 Conclusion

This research was carried out to establish the level of e-government implementation in Uganda's Public Sector, its Status, Achievements and Challenges. With improved technological advancement through modern skills acquisition and institutional funding e-government implementation in Uganda's Public Sector has of recent proved to be a success.

This research findings are therefore that to some extent e-government implementation in Uganda's Public Sector has been a success despite a few shortfalls.

Therefore, by this research findings, it is has been discovered that e-government has been practiced in Uganda since the late 90's but at a very slow pace despite the government's measures to ensure full implementation at all levels. This has been due to a number of factors such as the low level of IT skills among most Civil Servants especially those in decision making positions, high cost of ICT equipment, inapplicability of some database management programs introduced about by donors, unwillingness of some government officials to adapt to change and the poor receptive attitude

(surrounded by myths) towards e-governance by the top management committees in different government entities.

75% of the middle level Civil Servants admitted that they were willing to adapt to the use of e-government in their day to day activities during the questionnaire survey but pointed out the rigidity of their supervisors (top level officials) to adapt to change.

In order for e-government to be fully implemented in Uganda's Public Sector there is need to address several issues which may include leadership, culture change, governance, establishment of good relevant policies, advocating for a citizen-centered approach, change in the legal and regulatory frameworks, application of relevant technology, infrastructural expansion, planning, monitoring and evaluation, as well as the lobbying aspects.

During this research the researcher found out that there are much more generic benefits of e-government implementation than there could ever be any risks, such benefits were summarized as follows;

- Improving services and convenience to citizens
- Improving the productivity (and efficiency) of government agencies
- Creation of a more accountable government

- Increasing transparency and fighting corruption
- Empowering public access to information/records in possession of the state or public body for simplified decision making
- Improving the quality of life especially for the disadvantaged communities, promoting gender equality and minimizing the national digital divide
- Strengthening good governance
- Broaden public participation and promote democracy
- Strengthening the legal system and law enforcement
- Facilitating commerce and services for businesses online
- Making the private sector more competitive by reducing the cost of transacting with the government, for instance through tax collection and e-procurement

It was concluded by this research that the low level of e-government implementation in Uganda's Public Sector is caused not by just a single factor but rather a combination of factors which can be termed as crosscutting threats to e-governance as summarized below;

- Cybercrime and cyber terrorism
- Undefined cross-border jurisdiction for cyber litigation
- Reliance on imported hardware and software
- Reliance on foreign funding
- Un harmonized ICT Policies and Strategies
- Inadequate Infrastructure
- Adverse cultural beliefs and languages
- Inadequate funding
- Inadequate human resources

It is however necessary to carry out more ground research in order to provide comprehensive knowledge upon which to establish common applicable measures through which to overcome the identified obstacles to e-government implementation in Uganda's Public Sector. This research alone cannot entirely dismiss the current e-government development approaches by the MoICT, UCC and NITA but there is need to recognize other indirect e-government related policies and programs that may not be specific while tending to solve contextual e-government related challenges. Context related policies and programs will rather be more effective given the fact that they will be addressing specific gaps in an effort to create specific solutions to specific problems.

5.2 Recommendations

For a successful e-government implementation, a number of factors ought to be addressed and these were identified as;

Leadership, for any policy to be successful there ought to be full support from the leaders responsible for that specific entity. There is therefore need for full support from the leaders of specific government entities for e-government to be fully implemented.

Culture change, having discovered that Civil Servants who acquired their education after Information Technology had taken over are more likely to adjust to change through easily adapting to e-government use compared to their counterparts who were in school right before Information Technology completely took over. It is for this reason that the age factor was so central in regards to the level of adaption to e-government both by Civil Servants and other beneficiaries of e-government services.

Governance Mechanisms, there is need to improve on the governance mechanisms by properly coordinating the relation and process through which government entities operate in order to fully implement e-government in Uganda's Public Sector successfully. Such government mechanisms may include e-government monitoring actions, e-government implementation

policies and practices and the decisions of the different government departments.

Citizen-centric Approach, this refers to the government's focus on the needs of citizens, it is rather when governments deliver services according to the needs of the citizens. An availability of a citizen-centric approach will enable the government achieve full e-government implementation in all Public entities since it will be in form of a bottom-up approach form where all beneficiaries will be consulted and therefore well assured of full support from the grass root way to the top.

Appropriate Technology Architecture, there is need to adapt to the relevant, required and affordable technology in all government sectors. Relevant in the way that it can be used for the activity it is meant for and affordable in a way that any Ministry or local government irrespective of their budget can afford to acquire it hence improved low cost and applicable service delivery.

Infrastructure Expansion, in an effort to transform from the manual system to the trending ICT/e-government form of service delivery by Ugandan government there is need to expand the current ICT structure. The current ICT structure was found to be very weak and is the main reason for the e-government partial implementation over the years, there is need for it to be boosted in order to achieve positive results.

Lobbying aspects, there is also need for Uganda's ICT entities to lobby for more funding from both the government and donors if full implementation is to be achieved. ICT implementation is very expensive, from the purchase of hard machines to internet supply, software development, websites maintenance and data/information protection. Therefore to enable all this there is need for sufficient and continuous funding in order to achieve the desired results.

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APPENDIX 1: Interview Guide Questions

1. What are the different roles and initiatives put in place by the government to promote E-governance?
2. How many ICT applications/ systems employed by government entities in administering E-governance?
3. What could be the motivation behind government's introduction of E-governance?
4. What are the benefits of this E-governance system in the line of service delivery and development?
5. What are the challenges faced by the different government entities in the implementation of E-governance?
6. What kind of experience did you have after the government's introduction of E-governance?
7. What is the perception of the people/community as far as government's E-governance system is concern?

APPENDIX 2: Participant Interview Consent Form

I volunteer to participate in a research project conducted by Ms. Nakazibwe Clare from Seoul National University, Graduate School of Public Administration. I understand that this research is designed to gather information for academic purposes and is part of the work towards a Masters' degree of Ms. Clare.

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.
2. If I feel uncomfortable in any way during the time I fill out the survey, I have the right to decline to answer any question, from start to end of the interview.
3. The interview will last approximately 15-30 minutes. The interview will be taped and transcribed and stored on the personal computer of the researcher and used for analysis afterwards.
4. There are no known risks associated with participation in this study.
5. It is hoped that the results of this study will improve understanding of the use of Information and Communication Technologies in Uganda's Public Sector.

6. I understand that the researcher will not identify me by name in any report using information obtained from this study, and that my confidentiality as a participant in this study will remain secure.

7. Data collected for this study will only be used for the purpose of this Masters' study program and will not be shared with external parties.

8. I have read and understood this document. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

Participants' Name:

Position:

Signature:

Date:

APPENDIX 3: Questionnaires

CURRENT STATUS OF ICT USAGE IN GOVERNMENT AGENCIES

	The current state of e-government implementation in Uganda's Public Sector	Strongly agree	Agree	Strongly disagree	Disagree
1	We have a stable and updated office website accessible anytime and anywhere				
2	There is provision of government information through electronic means				
3	We offer online transactions for the general public				
4	All ICT systems, tools and applications are implemented/in operation				
5	Government clients interact with civil servants through the use of ICT				
6	All telephones, fax lines and computers in my department are in good working condition				
7	There is reliable and sufficient internet connection				

	in my Ministry/department				
8	There are enough imaging services in my Ministry and operational at all times (Printers, Copiers, Scanners)				

CIVIL SERVANTS' USAGE OF THE AVAILABLE E-GOVERNMENT SERVICES

	The overall awareness and usage of e-government tools by Civil Servants	Strongly agree	Agree	Strongly disagree	Disagree
1	Our website is regularly updated and always contains current information				
2	Most of the official communication at my office is made via an email system, telephone and fax				
3	I use the computer for more than 50% of my tasks				
4	We provide government information to citizens through electronic means				
5	All staff in my department are computer literate and use it in their day to day work				
6	We have sufficient skilled resources to support electronic infrastructure				
7	There has been awareness programs intended to improve citizens' use of technology.				

OUTCOMES OF E-GOVERNMENT ADOPTION IN THE PUBLIC SECTOR

	The extent to which e-government benefits have been realized	Strongly agree	Agree	Strongly disagree	disagree
1	E-government usage has improved on my efficiency at work by reducing on my daily workload				
2	E-government adoption has narrowed the gap between Civil Servants and their clients				
3	E-government has improved accessibility of government services				
4	E-government adoption has efficiency in services delivery				
5	E-government has improved communication between government and businesses, for instance e-procurement				
6	E-government adoption has improved accountability				

Please circle the correct answer

1. From your point of view what do you think is the overall status of e-government in your organization?
 - a) Very good
 - b) Good
 - c) Fair
 - d) Poor
2. How often do you use electronic devices in accomplishing your day to day activities at work?
 - a) Regularly
 - b) Sometimes
 - c) Rarely
 - d) Never
3. Would you concur with the fact that all/some services offered by your Ministry are electronic?
 - a) Yes
 - b) No
4. Is e-government effective in bringing government services closer to people?
 - a) Yes
 - b) No

5. Please list the system/ applications/ on line services or tools are available in your department?

I. II. III. IV.

6. Do you know the importance of IT in an organization?

a) Yes

b) No

7. What is the highest level of IT leadership in your organization/Ministry?

8. As a Civil Servant, Is there any e-government adoption strategy in your Ministry?

a) Yes

b) No

9. If yes, how far has it been implemented and over what period of time?

10. Does your Ministry have any ICT policy/ standards?

11. If yes, could you please those you know of?

12. How many major ICT projects has your organization successfully implemented for the past three to five years?

13. What ICT/e-government services are currently being used in your Ministry?

a) CCTV System

b) Radio Communication system

- c) Radio & TV Station
- d) Dedicated internet connection (capacity?)
- e) Corporate e-mail system
- f) Corporate website
- g) Corporate Intranet
- h) MS Office suite
- i) Transactional/ payments applications (for both incoming and outgoing)
- j) Employee management application
- k) Record management system (Archiving)
- l) Others

14. Overall, how does ICT play an important role in the engagement between government entities/Ministries and the Public/Citizens (Citizens, Businesses, Government agencies)?

15. What is the status of e-readiness in your organization/Ministry?

- a) Users
- b) Management buy-in and support
- c) Budget

16. Are there any awareness/ encouraging programs to users/ citizens on how to make use of technology in an effort to access e-government services?

17. Do you think there is harmonization of ICT adoption between departments within your organization/Ministry?

18. How often is your Ministry website updated if any?

Abstract in Korean

우간다 공공부문의 전자정부 전환:

현재 진행상황과 성과, 과제를 중심으로

Nakazibwe Clare

서울대학교 행정대학원

글로벌행정전공

본 연구는 우간다 공공부문의 전자정부 전환과 관련한 진행상황, 성과 및

과제에 초점을 맞추고 있다. 본 연구는 전자정부 전환의 잠재적 동인으로서 전

자정부의 상황, 성과, 과제에 대해 검토하면서 시작되었다. 우간다 전자정부의

개시, 개발, 집행에 있어서 중요한 당면과제를 분석하고 평가하기 위해 전문가

설문 결과가 활용되었다.

관심 집단 토론과 현장 관찰을 사용하여 데이터를 수집했다. 본 연구는 우

간다의 전자정부 전환에 있어서 기술 요인들이 긍정적 또는 부정적인 영향을

미치는지를 확인하기 위해 제도와 사회적 E-전환과 같은 요인들에 대해 논한

다. 따라서 본 연구의 목적은 전자 정부가 우간다의 공공 부문을 어떻게 변화시

켰는지 알아내는 것이다.

주제어: 전자정부, 전자정부 변환, 전자정부 상황, 전자정부 성과, 전자정부

과제, 우간다, 기관

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