

**LOCAL GOVERNMENT EMPLOYEES' DIGITAL LITERACY AND
IMPLEMENTATION OF E-GOVERNANCE INITIATIVES IN UGANDA**

A CASE STUDY OF IGANGA MUNICIPALITY

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DECLARATION

I, George Mugavu, do hereby declare that this Dissertation titled “**Local Government Employees’ Digital Literacy and implementation of E-governance Initiatives in Uganda**” is my original work; it has never been submitted to any other Institution of Higher Learning for any academic award.

Signed: 


Date: 

George Mugavu

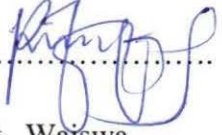
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APPROVAL

This is to certify that this Dissertation titled “Local Government employees` Digital Literacy and implementation of E-governance Initiatives in Uganda” submitted by George Mugavu has been under my supervision and is now ready for submission to the Graduate School, Kyambogo University.

Signature.......... Date.....2nd June 2020.....

Dr. Teopista Kyamanywa

Signature.......... Date.....22 June 2020.....

Mr. Robert Waiswa

DEDICATION

This dissertation is dedicated to my siblings Lugwana Joel, Waiswa David and Nangobi Babra, to serve as an inspiration to them in their academic journeys. I also dedicate it to my parents for the academic foundation that they laid for me; may the Almighty extend their days on this planet.

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ABSTRACT

This study focused on investigating whether the current state of Local Government employees' digital literacy enables the implementation of E-governance initiatives in Uganda using a case study of Iganga Municipality. The study was guided by the following objectives; to examine if a relationship exists between Employees' problem solving electronic-skills and the state of implementation of E-governance initiatives in Iganga Municipality, to assess the contribution of Employees' information-communication electronic-skills towards the implementation of E-governance initiatives in Iganga Municipality and finally to examine if a relationship exists between Employees' software electronic-skills and the implementation of E-governance initiatives among the employees in Iganga Municipality.

The study was based on a case study research design due to its ability to narrow down a very broad field of research into one or a few easily researchable examples.

The study found out that Iganga Municipality had no personnel specifically employed for purposes of ensuring that ICTs used in the offices are maintained and repaired in case of any breakdown, impacts negatively on the implementation of E-governance initiatives in the Municipality. It was also revealed that problem solving electronic skills and information-communication electronic skills are key in the implementation of E-governance initiatives in Uganda.

The following recommendations were made; There is need for the central government to support local government financially in order to enable them establish office of the head of ICT as this would help them to continuously initiate trainings for local government employees in different electronic skills for example problem solving skills, information-communication skills and others. Local government employees' should be trained in information- communication electronic skills as these will enable them implement the e-governance initiatives with minimal huddles since the basics required would have been attained and lastly, initiatives to provide refresher courses, training and retraining of local government employees in software electronic skills should be supported by the Municipal administrators as this will help employees' develop competences in ICTs which would help local governments implement e-governance initiatives and ensure better service delivery to the citizens.

LIST OF ACRONYMS

IFMIS Integrated Financial Management Information Systems

IPPS Integrated Personnel Payroll Systems

ICT Information Communications Technology

IT Information Technology

TAM Technology Acceptance Model

TRA Theory of Reasoned Action

TPB Theory of Planned Behaviour

LGs Local Governments

MDAs Ministries, Departments and Agencies

NITA-U National information technology Authority Uganda.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter describes the background to the study in terms of historical, theoretical, conceptual and contextual perspectives. It also described the research problem, the statement of the problem, purpose of the study, research objectives, and research questions, scope of the study and significance of the study.

1.2 Background to the Study

This is presented using Amin's (2005) approach; that is, dividing it into four perspectives, namely: historical perspective, theoretical perspective, conceptual and contextual perspective as presented below.

1.3 Historical Perspective

For long, there have been many global attempts to extend the notion of literacy beyond its original application to the medium of writing. As long ago as 1986, one of the leading British researchers in the field of literacy, Margaret Meek Spencer, introduced the notion of emergent literacies in describing young children's media-related play (Spencer, 1986) and the call for attention to new or multiple literacies has been made by many authors over subsequent years (Bazalgette, 1988).

In 2013, the general level of digital literacy among the citizens of EU countries stood at about 25.7% of people. In Poland, according to the data obtained by Eurostat, the above-mentioned skills were possessed by about 21% of citizens in 2013 (Eurostat), where 9% of people were on a high level (higher level occurs in case of having at least 5 or 6 of the above-mentioned skills).

On the African continent as noted by Bhuiyan (2009), digital literacy faces low growth due to key challenges being faced in the implementation of ICT which consist of: the development of information and communications infrastructure; human resources development and employment creation; the current position of developing countries in the world economy; and insufficient legal and regulatory frameworks and government strategy. Bhuiyan (2009) supports these sentiments by citing that corruption is an added challenge; Especially where the developing country's political landscape is characterized by political elite who influence the direction of ICT initiatives.

In Uganda, Ministries, Departments and Agencies (MDAs) have embraced the use of digital platforms to provide government services with half of them (50.7%) offering e-Governance services via the web, 19.5% via SMS and 13% using mobile applications (NITA-U, 2018). In addition, 61% of MDAs planned to implement new e-Government services in the following five years. However, government needs to create more awareness and encourage new use of e-Governance services (NITA, 2018) .

Local Governments (LGs) provide government with an avenue to reach down to the grassroots and directly serve citizens. Survey findings show that in general, the proportion of LG employees that routinely use computers is only 3.3%, while the proportion that routinely use the Internet is 1.7%. Corresponding figures for MDAs are 37% and 22.5%, highlighting the digital divide between MDAs and LGs even as government seeks to mainstream e-government services to serve more citizens more efficiently and effectively (NITA-U, 2018). Find further details about the historical perspective of the problem in Chapter 2 (literature review).

1.4 Theoretical Perspective

This study was guided by two theories: The theory of unintended consequences and the technology acceptance model. These theories were selected because of their explanations on service delivery in a technologically defined environment. This theory was used to establish the results from the implementation of E-governance initiatives in Iganga Municipality.

Technology Acceptance Model (TAM) deals with the prediction of the acceptability of an information system. TAM is an adaptation of the theory of Reasoned Action (TRA) to the field of information systems (Venkatesh, 2005). The technology acceptance model was very vital because it helped to establish whether the employees are free with the use of ICTs in the provision of services to the citizens in the Municipality. More about the perspective features in Chapter 2 (theoretical review).

1.5 Conceptual Perspective

The term digital literacy, as used in this study, refers to a person's ability to perform tasks effectively in a digital environment. It includes the abilities to read and interpret media, to reproduce data and images through digital manipulation; and to locate information, evaluate critically and apply new knowledge from digital environments (Flannigan, 2006).

Digital literacy refers to all information environments that are mediated via the World Wide Web or similar mobile devices. In particular, those environments that facilitate the discovery and search of information, people, and resources (encyclopaedia of information sciences, 2000).

On the other hand, Information and communication technology (ICT) refers to technologies like computers, mobile phones, and tablet devices, as well as the many software programs that these machines can run, which allow users to access information and communicate with each other (Jisc, 2016).

Local Governments refer to the Administrative structures that provide government with an avenue to reach down to the grassroots and directly serve citizens (NITA-U, 2018)

Employee refers to any person that has entered into a contract of service or an apprenticeship contract, for purposes of gaining steady payment.

E-governance denotes the application of information and communication technology (ICT) by the government to enhance accountability, create awareness and ensure transparency in the management of government business; it is a political strategy through which the activities of government are made known through the adoption of modern communication technology (Ojo, 2014) .

1.6 Contextual Perspective

Iganga District development framework embraces long term priorities for better service delivery to the citizens. District officials have always conducted consultative meetings in all the Divisions of Iganga Municipality, in order to establish the needs, challenges and priorities of every employee and their ability to serve the citizens (Iganga Municipal Council, 2016).

In Iganga Municipality, 52.3% of persons between 18-30 years own a mobile phone; 10.8% of persons aged 18-30 years use internet (UBOS, 2014). The source adds that the main source of information for most households is radio, constituting 51.8% of the population who rely on radio entirely for information concerning service delivery both by the District and the Central government.

According to Iganga Municipality Report (2016), all workers in the Municipality received training in ICT use so as to improve their service delivery to the citizens in the Municipality. Despite the

training that was provided to the employees, statistics reveal that the proportion of Local Government employees that routinely use computers is only 3.3%, while the proportion that routinely uses the Internet is 1.7%, even as government seeks to mainstream e-government services to serve more citizens more efficiently and effectively (NITA, 2018).

1.7 Statement of the Problem

Government of Uganda has continually tried to streamline and rationalize structures, functions and staff establishments of her institutions, to make them respond to changes in legislation, policy and operational strategies as a measure of enhancing productivity and service delivery (Ministry of Public Service, 2016). Unfortunately, challenges still persist especially in Local Governments (LGs) (Ministry of Public Service, 2016).

One of the challenging issues is that, there has been slow adoption, by LG staff, of the ICTs meant to leverage e-governance (NITA, 2018). NITA (2018) further reveals that the proportion of LG employees who routinely use computers is only 3.3%, while the proportion that routinely uses the internet is 1.7%. Corresponding figures for Ministries, Departments and Agencies (MDAs) are 37% and 22.5% respectively which highlights the digital divide between Ministries, Departments and Local Governments as government seeks to mainstream e-governance services to serve citizens more efficiently and effectively.

Consequently, attempts have been made by government to take advantage of the power of new and emerging Information -Communication Technology (ICTs), such as the Integrated Personnel Payroll Systems (IPPS); Integrated Financial Management Systems (IFMS); e-government portals and websites; and other ICTs in the delivery of public services. This move has been supported with strategies to raise staff competences, such as seminars and workshops for public servants in government MDAs. But still, challenges persist (NITA-U, 2018).

Deficiency in basic digital literacy skills among LG employees is among the contributing factors to the above scenario (NITA-U, 2018), yet scanty empirical evidence exists, especially in the study area. It is against this background that this study was conducted.

1.8 Purpose of the Study

To examine the Local Government employee's digital literacy and the implementation of E-governance initiatives in Uganda.

1.8.1 Specific objectives of the study

1. To examine if a relationship exists between Employees' problem solving electronic-skills and the state of implementation of E-governance initiatives in Iganga Municipality.
2. To assess the contribution of Employees' information-communication electronic-skills towards the implementation of E-governance initiatives in Iganga Municipality.
3. To examine if a relationship exists between Employees' software electronic-skills and the implementation of E-governance initiatives in Iganga Municipality.

1.8.2 Research Questions

1. Is there a relationship between Employees' problem solving electronic-skills and the implementation of e-governance initiatives among the local government employees in Iganga Municipality?
2. Can local government employees' information-communication electronic-skills contribute towards the implementation of e-governance initiatives among the employees in Iganga Municipality?
3. What is the relationship between local government employees' software electronic-skills and the implementation of e-governance initiatives among the local government employees in Uganda?

1.9 Scope of the Study

1.9.1 Content Scope

The study was limited to Digital literacy of employees in local government; and this entailed problem-solving electronic skills, Information-Communication electronic skills, software electronic skills.

1.9.2 Geographical Scope

The study was conducted in Iganga Municipality. Iganga Municipality is located in Eastern Uganda along Jinja-Busia High way. The study was conducted in all the Divisions of the Municipality: Headquarters, Central and Northern Division. It considered Local government employees in all the divisions as respondents for providing information that was needed for the study.

1.9.3 Time Scope

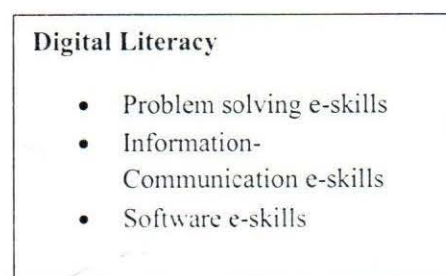
The study concerned itself with the period from January 2019 to June 2019. This period included preparation of research proposal, data collection, analysis, and compilation of the final report.

1.9.4 Conceptual Framework

This is a research enabler intended to assist a study to develop awareness and understanding of the situation under scrutiny and to communicate the analysis of the dependent variable and its influence on the independent variables makes it possible to find answers to the research problem represented in form of a model known as a conceptual framework (Sekaran, 2009).

According to (Amin, 2005), a conceptual framework is a basic structure of a research consisting of certain abstract ideas and concepts that a researcher wants to observe, experiment or analyse. It provides connections and relationships between concepts; and should be sufficiently specific to help answering the research questions (Creswell, 2003).

Independent Variable (IV)



Dependent Variable (DV)



Extraneous Variables

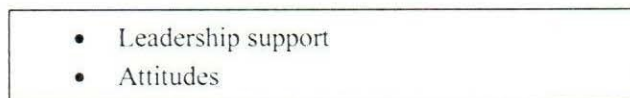


Figure 1: Conceptual Framework on Local government employees' digital literacy and implementation of e-governance initiatives in Uganda.

Source: Adapted from (Office of Statistics, republic of Slovenia, 2016) as modified by the researcher.

From the conceptual framework above, Problem solving electronic-skills would help an employee to establish digital needs and resources, in order to be position to come up with rational decisions

on most applicable digital tools based on the purpose or need, to solve conceptual problems through digital means, to creatively use technologies, to solve technical problems, For Example in line with registering new employees on to the website of the Ministry of Public Service as a requirement in the decongestion framework of Local government operations in Uganda, to update own and other's competence (NITA-U, 2018).

According to Baily, (2008) communication electronic skills are very key to communicate and also transact in digital environments, to share resources through online tools, to link with others and to collaborate through digital tools, to interact with and to participate in communities and networks, cross-cultural awareness, Information-communication electronic skills are very key and in this also facilitate Electronic procurement. The electronic information as a dimension of electronic procurement is at no cost connected to any stage in the process of procurement. E-informing entails searching and disseminating information on purchasing from customers and sellers through the internet (Boer, 2002). Information sharing between buyers and suppliers is very crucial for ensuring suppliers fulfil their orders to the required specifications (Ho, 2008).

According to the (ECDL Foundation, 2017), software electronic skills, help employees to perform effectively in a digitally set environment. As stated by Waiswa and Obura, (2014), tax management and administration is a pervasive activity which has direct effects on every citizen, businessman or woman, the corporate world, government, among others. Thus, any attempt or innovation that simplifies this task by ensuring closeness of services to stakeholders is very crucial in society and may take centre stage and this is also further enabled by knowledge of software operations by the employees in Electronic tax management.

1.9.5 Justification for the study

E-governance is increasingly becoming a fundamental tool for enhancing public administration. The central argument is that e-governance is not only a tool or platform that enhances delivery of public services but also has the potential to reform the way policies are formulated and implemented in terms of efficiency, accountability, transparency, and citizens' participation (Gok, 2013).

According to Ministry of Public Service (2016) of Uganda, the new and emerging technologies and use of Information Management systems such as Integrated Personnel Payroll Systems (IPPS); Integrated Financial Management Information Systems (IFMIS); and Information and Communications Technology (ICT) in the delivery of public services have resulted in new challenges and demands; thus calling for the transformation in the structural requirements in terms of strategies and staff competencies. It is upon this background that the researcher considers this study very urgent.

1.9.6 Significance of the Study

To academicians, the findings of the study shall act as a source of reference on application of e-governance initiatives in Uganda.

In addition, the findings of this study shall be valuable as they suggest areas for further research where future researchers and scholars can research on.

The findings of this research may also be valuable to policy makers on the introduction and application of e-governance initiatives in local governments in Uganda.

To political leaders, the findings of this study shall assist them in providing information on the effects of e-governance initiatives on service delivery in Uganda.

To government Ministries and Departments, more especially those charged with the implementation of e-governance initiatives, the findings of the study shall guide them on where and how to improve Uganda in line with Electronic service provision.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides review of relevant literature related to the study and it is arranged as follows: historical review, theoretical review, conceptual review, and contextual review. These are followed by literature review based on study objectives recommended Amin (2005).

2.1 Historical Review

Way back, a strong drive for an inquest in literacy in community settings was rooted from Heath's (1983) classic study of south eastern communities in the USA. Heath (1983) asked why Black students were not performing well in the then recently desegregated schools, and she contrasted their language and literacy socialization in community settings with children of White mill-workers in a neighbouring community as well as with middle-class children in the same town. She discovered that reading and writing transpired in all three communities but that local communities had differing histories and different rules for socially interacting and sharing knowledge and opinions (Heath, 1983).

For example, a letter got from school direct to a middle-class parent was handled as a sacred and confidential exchange, whereas in the Black working class community of Trackton it was a communal event, with one person reading the letter aloud to the neighbours and family synthesizing its meaning and what the response should be (Heath, 1983). This literacy event was attributed to a particular blend of text, talk, allocation of action and, turn taking in communication that was community specific and consistent with patterns of mutual child raising which contrasted markedly with the other local communities in the study.

Heath (1983), contended that the varying ways that children learnt to use language, including written language, were based on the ways in which each community organized its family, clarified the roles that community members were to take on and their varying understandings of childhood that directed child socialization. As far as the relationship between speech and text was concerned, she was of the view that literacy events have social interactional rules which regulate the type and amount of talk about what is written, and define ways in which oral language reinforces, denies, extends, or even sets aside the written material. These rules, she suggested, differ from culture to culture, local groupings, or speech communities. Heath differed from these local ways with

expectations and rules for text connected tasks in the formal institutional arrangement of schools. She contended that the ways of understanding of socially positioned individuals were not the same across communities and that middle-class children were merited by the proximity to school situations of their home and community ways with language.

Information literacy (IL) has been formally elaborated in the United States since the beginning of the 1990s. It came as a culmination from the various progress in information technology and its drastic results on the accessibility of information. With the drastic changes in communication technology, the library changed its mission from that of a repository of human culture to that of an enabler of the culture of humans. Consequently, the target of professional librarians has moved from that of knowledge preservation to the one of literacy information agitators (Ashoor, 2005). In its conceptualization, Association of College and Research Libraries (2000) suggests that information literacy is a collection of potentials necessitating persons to put into consideration whenever information is required and have the ability to locate, assess, and use effectively the required information.

Acknowledging that availing efforts to keep with the speedy rate of change in today's technological (some may say information or communications) society is usually a static propeller for research or another crash-course about another new version of a software package: it is obvious that it is required for users (in this case instructors) of IT to attain a coherent understanding of the apparent and ever coming trends. Thus, initiated the development of a comprehensive course based on training, computer literacy for the 90s, a trial geared towards providing a big picture balanced with foundational hands-on training (Jon, 1990).

Paul Gilster first popularised the term in his book, *Digital Literacy*, published in 1997. He put forward digital literacy as, simply, literacy for a digital age. A recent review of the *Digital Literacy* literature (Hagel, 2012) enhances understanding of this consequence of the learning process. Digital literacy usually conceptualized varyingly based on disciplines, however, genuinely, it concentrates more on literacies rather than media and involves finding, using and disseminating information in a digital world.

2.2 Conceptual Review

E-skills cover knowledge and skills persons obtained and know how to use; they are composed of four sets of e-skills measured by the number of activities persons can perform and are related to ICT usage (computers, portable devices, software and the internet) (Zupan, 2017).

Information e-skills refer to one's ability to find information about goods or service on the internet, seek for health-related information on the internet, obtaining information from e-government websites, copying or moving files or folders and usage of storage space (Zupan, 2017).

Communication electronic skills refer to one's ability to send and receive e-mails, participate in social networks, telephoning or, making video call on the internet, uploading self-created photos, videos and texts to the internet (Zupan, 2017).

E-procurement simply refers to the process of purchasing goods and services electronically (internet-enabled) required for an organization's operation (Mitchell, 2000).

Problem solving electronic skills involve one's ability to transfer files or folders between computers or other devices, installing software or applications, changing the settings of any software, on line purchase, and selling via websites (Zupan, 2017).

In general usage, digital literacy is the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship; includes competences that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy (UNESCO, 2018).

According to Zupan, (2017), software electronic skills denote one's skills that entail ability to use word processing software, spread sheet software, use of advanced functions of spread sheet software, creation of presentations with integration of photos, texts, pictures or charts.

Local government may be loosely defined as a public organization, authorized to decide and administer a limited range of public policies within relatively small territory which is a sub division of a regional or national Government (Lockard, 1948).

Employee means any person who has entered into a contract of service or an apprenticeship contract, including, without limitation, any person who is employed by or for the Government of

Uganda, including the Uganda Public Service, a local authority or a parastatal organization but excludes a member of the Uganda Peoples' Defence Forces (Parliament of Uganda, 2006).

An employee means any person who has entered into a contract of service or an apprenticeship contract, including, without limitation, any person who is employed by or for the Government of Uganda, including the Uganda Public Service, a local authority or a parastatal organization but excludes a member of the Uganda Peoples' Defence Forces (Parliament, 2006).

According to Savic (2006), E-governance is "the use of information and communication technologies and particularly the internet, as a tool to achieve better government."

According to Backus (2001), E-governance, is the application of electronic means in (1) the interaction between government and citizens and government and businesses, as well as (2) in internal government operations to simplify and improve democratic government and business aspects of governance.

For the case of this study, the researcher considered the definition of e-governance as put forward by Backus (2003) due to its clarity on how the government can electronically transact with its citizens for the benefit of both parties.

2.3 Theoretical Review

As earlier stated in the theoretical background in chapter one, this study was informed by two theories: the TAM and the Theory of Unintended Consequences (TUC). This section reviews the two theories, beginning with the latter.

Merton (1936) provided a definition for an unanticipated consequence and, importantly, established that the definition does not rest only on the consequences but also negative. Unanticipated consequences can either be positive or negative; the desire or otherwise of the effect is often in the eye of the beholder. Merton's analysis developed five reasons for unexpected consequences, the first being that a simple mistake made through lack of knowledge of a specific situation can, in turn, prevent the accurate prediction of an outcome.

The second is the assumption that repeating something that was done in the past would produce the same result in the future and this was very crucial in guiding the study as to whether the current state of local government employees' digital literacy would enable the implementation of e-

governance initiatives in Iganga Municipality. Thirdly, immediate interests tend to override long-term interests; the fourth being basic values which may require or prohibit certain actions even if the long-term result might be unfavourable (these long-term consequences may eventually cause changes in basic values). And lastly self-defeating prophecy, or, the fear of some consequence which drives people to find solutions before the problem occurs, thus the non-occurrence of the problem is not anticipated (Merton, 1936).

On the other hand, the Technology Acceptance Model (TAM) concerned with forecasting the acceptability of an information system. TAM is an adaptation of the theory of Reasoned Action (TRA) to the field of information systems (Venkatesh, 2010). The main goal of this framework is to forecast the acceptability of a tool and also identify the manipulations which should be made to the system as a way of making it acceptable to users. This model opines that the acceptability of an information system is determined by two main factors: Understood usefulness and perceived ease of use (Venkatesh, 2003). TAM holds that the apparent applicability and conceptualized ease of use determine an individual's intention to use a system with intention to use working as a mediator of actual system use. Understood importance is definitely seen as being directly affected by the understood ease of use (Venkatesh, 2003).

2.4 Contextual Review

The concept of digital literacy is not new. Actually, arguments for computer literacy date back at least to the 1980s. Yet as Barton (1994) clarified, the term computer literacy is often poorly defined and delineated, both in terms of its overall aims and in terms of what it actually entails. As noted earlier, importance of computer literacy usually dependent on unrealistic assertions about the vocational significance of computer skills, or about the inherent essence of learning with computers, which have been widely challenged.

In today's utilization, digital literacy is seen to add up to a minimal set of skills that would help an individual to operate effectively with software tools, or in performing basic information retrieval activities. This is fundamentally an operational definition: it clarifies the ideal skills that are necessary to do key operations, but it does not go very far beyond this. For example, the British government has attempted to define and measure the ICT skills of the population alongside traditional literacy and numeracy as part of its skills for life survey (Buckingham, 2003).

In 2013, the overall digital literacy among the citizens of EU countries was about 25.7% of people. In Poland particularly, according to the data obtained by Eurostat, possessed about 21% of citizens in 2013 (Eurostat), where 9% of people were on a high level (higher level occurs in case of having at least 5 or 6 of the above-mentioned skills).

In Uganda, MDAs have slowly but steadily embraced the use of digital platforms to provide government services with half of them (50.7%) offering e-Governance services via the web, 19.5% via SMS and 13% using mobile applications the (NITA-U, 2018). In addition, 61% of MDAs plan to implement new e-Governance services in the next five years. However, government needs to create more awareness and encourage new use of e-Governance services (NITA-U, 2018). For example, just 17.4% of individuals that had interacted with an MDA were aware of any government or public service available online. Usage is even much lower, with only 5% of those aware of e-Government services having used an online service. Only 28.6% of MDAs have adopted cloud computing services with email as the most adopted cloud service, outpacing storage and software services. Most MDAs (86.4%) cite reduced ICT related costs as the primary benefit of cloud computing, but still have concerns about data security and the high cost of cloud services.

2.5 Literature Review Based on Objectives of the study.

According to the report by Office of Statistics, Republic of Slovenia (2016), digital literacy can be disaggregated into four dimensions which include information e-skills, problem solving e-skills, communication e-skills and software electronic-skills: and these were further reviewed in relation to E-governance initiatives as below.

2.5.2 Problem Solving Electronic Skills and E-governance initiatives

According to NITA-U (2018), IT training for local government staff is critically lacking, both in terms of basic IT skills and knowledge as well as to building up their general security awareness, hence their problem-solving e-skills are not dependable. Only one in three (30%) local governments provide any form of internal IT training for their staff compared to three in four (78.6%) MDAs: in general, in both cases, staff training is largely rare and random yet for instance e-voter system requires technical human resources in the ICTs in order to ensure its efficiency and effectiveness (NITA-U, 2018).

Problem solving e-skills will help an employee to establish digital needs and resources, in order to be in position to come up with rational decisions on most applicable digital tools based on the purpose or need, to solve conceptual problems through digital means, to creatively use technologies, to solve technical problems, to update own and other competencies (NITA-U, 2018)

Validation and verification are geared towards effecting the removal of errors from the system, and is typically a low-level task.: and is related to robustness. Validation is more concerned with the quality of the system and is typically a high-level task that leads to accuracy, and the observed robustness. However, accuracy and robustness may contradict with privacy (Institute of applied mathematics, 2007).

2.5.3 Information-Communication Electronic-Skills and E-governance initiatives

According to Baily, (2008), communication electronic skills are very key communicating and transacting in digital environments, sharing resources through online tools, linking with others and collaborating through digital tools. They are also crucial interacting with and participating in communities and networks, and cross-cultural awareness.

For example, the Rwandan Decentralization Support Programme (RDSP) funded by the Belgian Development Cooperation (BTC) is contributing to digitization in several ways: the implementing partner of RDSP, that is the Local Administrative Entities Development Agency (LODA), is in the process of implementing the Citizen Monitoring System (CMS) that will involve registration of citizens for monitoring purposes. This is a digital system to seek feedback from citizens related to issues they could have with infrastructure development and social protection. RDSP is supporting training on the use of the CMS system for LODA and District staff (Belgian Development Cooperation, 2017).

According to Baily (2008), e-procurement is done with a software application that involves characteristics for supplier management and complex auctions. The e-procurement value chain constitutes indent handling, e-tendering, e-auctioning, vendor handling, catalogue handling and contract management. Here, indent management refers the workflow involved in the preparation of tenders.

Information is a key asset to the success of organizations. However, managing it in contemporary society requires an individual to have digital information skills which comprise of the ability to be

equipped labour force (in software skills) to handle all the information necessary to prevent financial losses and also general wastage of resources (URA, 2017).

Most scholars have concentrated on E-government and service delivery, without necessarily the local government employee's digital literacy and the implementation of e-governance initiatives.

This study remained relevant since it established whether the current state of local government employees' digital literacy would enable the implementation of e-governance initiatives in Uganda.

2.6 Summary of Literature

This review was based on four perspectives which included historical review, theoretical review, conceptual and contextual reviews: and these were followed by review of literature based on the objectives of the study and the dimensions of e-governance.

2.7 Conclusion

Digital literacy is very instrumental in this 21st century and therefore since there has been slow adoption of new technology in developing countries Uganda inclusive due to reasons like limited funds to procure the equipment, inadequate funds to support skilling and reskilling of personnel in organizations, a lot needs to be done by all stake holders to ensure effective service delivery using information communication technology.

Although most scholars are very clear on what digital literacy can do to enhance the implementation of e-governance initiatives, no clear strategy is put forward on how government entities can ensure that e-governance initiatives can improve service delivery. There is need to conduct further research on e-governance strategy and service delivery as review has identified fundamental gaps that influence the level of service delivery in local government.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the study design, population, sampling techniques, data collection instruments, quality control, data analysis and ethical considerations as used in the study.

3.2 Research Design

The research used a case study Design. A research design is the arrangement of conditions for collection and analysis of data in a manner that aims at combining relevance to the research purpose with economy in procedure (Mugenda, 2009). Both quantitative and qualitative techniques were used. Triangulation of both qualitative and quantitative helped the researcher to achieve a higher degree of validity and reliability and enabled the researcher to acquire and analyse data from all angles (Amin, 2005).

The study was conducted using a case study research design due to its ability to narrow down a very broad field of research into one or a few easily researchable examples (De Vaus, 2001).

According to Creswell et al. (2003), qualitative research helps in getting an in-depth analysis of the problem under investigation; hence qualitative research design was also applied in order to describe current conditions and obtain the relationships between the public and Iganga Municipality.

3.3 Target population

The study population consisted of Local government employees in Iganga Municipality. They were 85 in number; they included the town clerk, heads of departments and all other employees. Iganga Municipality consisted of three divisions: Northern Division, the Central Division and the Municipal Headquarters.

3.4 Sample size

The study sample embodied a total of seventy-three (73) respondents out of a population of about 85 LG workers; this sample size was arrived at using Krejcie and Morgan's (1970) table of sample determination, which features in (Amin, 2005) see Appendix 6.

Table 1: Sample selection and Sample size of the respondents

Category of respondents	Population	Sample size	Sampling Strategy
Top administrators	10	10	Census
Other officers	75	63	Purposive
TOTAL	85	73	

Source: *Field Data, April, 2019 with reference to Krejcie & Morgan (1970).*

3.5 Sampling technique

The study used census and purposive sampling techniques. Census sampling technique was applied to the top administrators where in this case, all of them were selected. Purposive sampling involved giving out questionnaires to the local government workers in Iganga Municipality especially those whose work involves use of computers since they were in position to provide relevant information and responses.

3.6 Data Sources

The study used primary data from the respondents which involved use of both questionnaires and interview guides. Here local government employees in Iganga Municipality were availed with questionnaires and were asked to fill in according to what they knew.

3.6.1 Data Collection Instruments

3.6.2 Questionnaire

The questionnaires were self-administered. Questionnaires were used because they allow respondents to avail the researcher with free and independent opinions since they feel not affected by the researcher's presence. Sekaran (2003) states that questionnaires are efficient data collection mechanisms where the researcher knows exactly what is required and how to measure the variables of interest. They are also less expensive and save time and they do not need special skills to administer them.

3.6.3 Interview guide

This method was used to collect data from Iganga Municipal administrative structure. This is because it is expeditious to use in the field during data collection exercise and can give the researcher opportunity to interface with top administrators.

3.7.0 Data Quality Control

Data quality control or data validation is a stage in data management which is essential whenever data are used by any individual or group other than the originators of the data. Data quality control information tells users of the data in a brief way how it was gathered, how it was cross-checked, processed, what algorithms were used, what errors were found, and how the errors were corrected or flagged. They included the following;

3.7.1 Validity

According to Messick (1994), validity refers to the degree to which empirical evidences and theoretical rationales support the adequacy and appropriateness of interpretations and actions based on test scores.

Borsboom (2004) has a different take on validity, stating that: "...a test is valid for measuring an attribute if (a) the attribute exists and (b) variations in the attribute causally produce variation in the measurement". Borsboom and other scholars do not agree with Mesick's conception of validity. In this study Mesick's viewpoint was adopted.

The researcher used questionnaires and interview guides for collecting data. Validity of these instruments was tested by first giving out the research instruments to two experts other than those sampled. Thereafter, a general pre-test was done using the researcher's undergraduate students; questionnaires were distributed to them and asked to fill them (questionnaires) honestly.

According to Amin (2005), internal validity refers to how well the study is run and how confident one can conclude that the change in the dependent variable is produced solely by the independent variable and not the extraneous variable. Conversely, external validity refers to the extent to which the results of the study can be generalized or applied to other people or settings. Internal and external validity in this study was ensured by applying Spearman Rank correlation and thematic analysis which were appropriate to the type of data collected as well as the questions which the researcher was trying to answer.

3.7.2 Reliability

Reliability is the measure of the degree to which a research instrument yields consistent results after repeat (Amin, 2005).

Cronbach's Alpha coefficient was used to measure reliability of the instrument. According to Amin (2005) an alpha of 0.5 or higher is sufficient to show reliability; the closer it is to one (01) the higher the internal consistency in reliability (Sekaran, 2003). A small pilot study was conducted using a questionnaire to test for its reliability before carrying out the major study in order to ensure the reliability of the research instrument.

Table 2: Reliability Test Results for all

Reliability Statistics	
Cronbach's Alpha	Number of Items
.966	25

Field Data, April, 2019.

Table 3: Reliability Statistics for Items under Problem solving Electronic skills

Cronbach's Alpha	N of Items
.927	10

Cronbach's Alpha coefficient for Problem solving electronic skills. As portrayed by the results above, 0.97 was got and according to Amin (2005) an alpha of 0.5 or higher is sufficient to show reliability; the closer it is to one (01) the higher the internal consistency in reliability (Sekaran, 2003).

Table 4: Reliability Statistics for Items under information communication electronic skills

Cronbach's Alpha	N of Items
.940	9

Cronbach's Alpha coefficient for items under Problem solving electronic skills. As portrayed by the results above, 0.94 was got and according to Amin (2005) an alpha of 0.5 or higher is sufficient to show reliability; the closer it is to one (01) the higher the internal consistency in reliability (Sekaran, 2003).

Table 5: Reliability Statistics for items under software electronic skills

Cronbach's Alpha	N of Items
.858	6

Cronbach's Alpha coefficient for items under Problem solving electronic skills. As portrayed by the results above, 0.858 was got and according to Amin (2005) an alpha of 0.5 or higher is sufficient to show reliability; the closer it is to one (01) the higher the internal consistency in reliability (Sekaran, 2003).

3.8 Procedure of Data Collection

The researcher sought for approval from the Graduate School of Kyambogo University. Thereafter the researcher travelled to Iganga Municipality with questionnaires and interview guides. The researcher then introduced himself to the Municipality officials with the help of an introductory letter from the Kyambogo University Graduate School. After being given an acceptance letter by the Municipal officials to conduct research, the researcher started distributing questionnaires to the local government employees specifically those whose work is significantly reliant on computers. Finally, interviews were conducted with top managers.

3.9 Data Presentation

Data was presented in form of tables, charts, histograms so as to bring out a clear picture of whether the current state of employees' digital literacy enhances the implementation of e-governance initiatives in local governments in Uganda.

3.10 Data Analysis

Data analysis is a systematic search for meaning (Creswell, 2003). It involved processing qualitative and quantitative data in order to communicate to others what has been learned. In this study, the researcher coded and analysed the data from the questionnaires using a constant comparative method (Hatch, 2002).

The quantitative data collected was entered into SPSS Tool for data analysis and Spearman Rank Correlation Coefficient was run in order to establish the relationship between Local Government Employees Digital Literacy and the implementation of E-governance initiatives in Iganga Municipality.

Content analysis was used to analyse qualitative data. The data was organized based on patterns, repetitions and commonalities into themes that were based on study variables and information was recorded and summarized using a tally sheet and themes obtained.

3.11 Ethical Considerations

The information gathered from the respondents was highly confidential and the consent of the respondents was sought and the respondents were assured of confidentiality to the responses they availed. Privacy was ensured by informing respondents prior that their names were not to be required and that they had a right to leave some questions that they wished they could not offer the required information.

Similarly, the researcher ensured that ethics remained a top priority throughout the study. This involved informing the participants that the study was of no harm to them and that their jobs in Iganga Municipality would not be affected after giving information and that the findings would help in informing policy practitioners in Iganga Municipality and Uganda in general on how best to improve local government employees' digital literacy as a pillar for better service delivery.

3.12 Measurement of Variables

3.13 Measurement of Digital Literacy

Digital literacy was the independent variable of the study and it was operationalized into: Problem solving electronic skills, information-communication electronic skills and Software electronic skills.

The items that were used to measure these constructs were put on a five-point Likert scale ranging from “strongly disagree” to “strongly agree” and means were computed to enable the analysis; this is because a similar measurement was adopted by other researchers such as Harpe et al (2008).

3.14 Measurement of E-Governance

This was the dependent variable of the study and it was operationalized using E-procurement, E-registration, and E-taxation and E-voter validation – where “E” stands for “electronic”.

The items that were used to measure these constructs were put on a five-point Likert scale ranging from “strongly disagree” to “strongly agree” and means were computed to enable the analysis Harpe et al (2008).

3.15 Conclusion

This chapter considered the research methods, sampling techniques, data quality control and analysis as they were used in the study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS

4.1 Introduction.

This chapter presents the findings, their analysis and interpretation which are presented in tandem with the research objectives. The chapter begins with the background information to the findings, after which the findings in line with the research objectives are presented.

4.2 Demographic Characteristics of the Respondents.

The background information focused on respondent's Gender, Age, Level of Education and E-governance initiatives under implementation.

4.2.1 Gender of the respondents.

In most cases the gender of respondents is seriously grounded within the societal norms and as such, the respondents were asked their gender in a bid to establish the relationship between their Digital Literacy and E-governance initiatives. The results were as portrayed in the table below.

Table 6: Gender of the respondents.

Gender	Frequency	Percent (%)
Male	39	53.4
Female	34	46.6
Total	73	100.0

Source: field Data, April (2019).

Findings in above reveal that majority of the respondents 39 (53.4%) were males. This was followed by 34 female respondents, which constituted of 46.6%. In short, the respondents were females. The results therefore imply that majority of employees in Iganga Municipality were males. Such people are not affected by maternity leave and therefore if trained in Problem solving electronic skills, information communication skills and software electronic skills as supplementary can enable the effective implementation of E-governance initiatives in the Municipality.

4.2.2 Age of the Respondents

Based on general discourse, the researcher went to the field with an assumption that older employees have low digital literacy due to the fact that most of them attended school when ICTs were scarcely integrated in the Ugandan Education curriculum. The researcher also assumed that, although ICTs were not key by that time of assuming those positions of responsibility to serve the citizens, these older employees would go back for short courses in ICT. However, the results concerning the age of the respondents were as illustrated below.

Table 7: Age of the respondents.

Age	Frequency	Percent
20-30	19	26.0
30-40	30	41.1
40-50	19	26.0
50-60	5	6.8
Total	73	100.0

Source: Field Data, April, 2019.

Findings in Table 7 reveal that majority of the respondents (41.1%) were aged 30-40 years. This was followed by respondents aged 20-30 and 40-50, constituting an equal proportion of 26%. The least respondents were aged 50-60 years representing 6.8%. The results therefore imply that majority of employees in Iganga Municipality were between 30-40 years old. Such people are still energetic and therefore can be very productive in terms of rendering services to people if they are equipped with the necessary skills.

4.2.3 Respondents' Level of Education.

The researcher in this section wanted to establish the influence of level of Education on the Level of Digital Literacy of Employees with an intension of establishing how it influences the implementation of E-governance initiatives in Iganga Municipality. The results are presented in Table 8 below.

Table 8: Respondents' Level of Education

Level of Education	Frequency	Percent
Certificate	9	12.3
Diploma	16	21.9
Degree	35	47.9
Postgraduate qualification	13	17.8
Total	73	100.0

Source: Field Data, April, 2019.

The results in the table 8 above revealed that majority of respondents 35 (47.9%) had attained a bachelor's Degree. Respondents who had a diploma level of Education followed with a statistical representation of 16 (21.9%). Respondents with Postgraduate qualification followed with a statistical indication of 13 (17.8%). The least respondents 9 (12.3%) had a certificate. The results of this study therefore implied that majority of the Local government employees in Iganga municipality were Degree holders and that is why there was need for just refresher courses in ICTs in order to improve their Digital literacy in order to enable the implementation of e-governance initiatives in the Municipality.

4.2.4 Knowledge of E-governance initiatives that were being implemented.

The researcher in this section wanted to establish whether there were some e-governance initiatives that were being implemented in Iganga Municipality. The results are presented in Table 6 below.

Table 9: E-governance initiatives that were being implemented.

Are you aware (Knowledge) of E-governance initiatives implemented by government?	Frequency	Percent
Yes	63	86.3
No	10	13.7
Total	73	100.0

Source: Field data April, 2019.

The above results show that majority of respondents (86.3%) said that they were aware of e-governance initiatives being implemented by government of Uganda; while just 13.7% of the respondents expressed ignorance of e-governance initiatives under implementation by government of Uganda. The results in the table above implied that the largest proportion of the local government employees in Iganga Municipality knew about some e-governance initiatives that were being implemented in the municipality.

4.2.5 Job tenure in the Municipality

In this respect, the researcher wanted to establish how long the employees had worked in the Municipality, as this impliedly has an influence on possibility of giving refresher courses in ICTs for those who never had a chance to study it, as a way of improving their Digital Literacy. The findings are presented in Table 7 below.

Table 10: Period taken working in Iganga Municipality.

Period spent in the Municipality	Frequency	Percent
Less than a year	22	30.1
1-3 Years	24	32.9
4-6 years	13	17.8
7 years and above	14	19.2
Total	73	100.0

Source: Field Data April, (2019).

The results in the above table indicated that majority of the respondents 24 (32.9%) had worked in Iganga Municipality for a period between 1-3 years. These were followed by those who had worked in the Municipality for Less than a year who were 22 constituting of 30.1%. 14 employees that constituted of 19.2% had worked in the Municipality for seven years and above. The least respondents 13 (17.8%) had worked in Iganga Municipality for a period between 4-6 years. This implied that having served in the Municipality longer, would offer an opportunity to provide refresher courses in software skills for employees in the Municipality, to enable the effective implementation of e-governance initiatives in the Municipality.

Findings according to the different study objectives

4.3.1 Relationship between Employees' problem solving electronic-skills and the state of implementation of E-governance initiatives in Iganga Municipality.

As portrayed in section 1.5 of chapter one, the first objective of the study sought to establish if a relationship exists between employees' problem solving electronic skills and the state of implementation of E-governance initiatives in Iganga Municipality. In order to fulfil this objective, data was collected using questions indicated in Section B of the questionnaire (Appendix 1). Other additional information was obtained through interviews that were with the top Administrators of the Municipality. As such a Spearman Correlation was run and the results are portrayed in the table 8 below.

Table 11: Spearman Correlation

Correlations				
			Problem solving skills of respondents	E-governance initiatives that being implemented in Iganga Municipality
Spearman's rho	Problem solving E-skills of respondents	Correlation Coefficient	1.000	.048
		Sig. (2-tailed)	.	.688
		N	73	73
	E-governance initiatives that being implemented in Iganga Municipality	Correlation Coefficient	.048	1.000
		Sig. (2-tailed)	.688	.
		N	73	73

Source: field data, April, 2019

From the results in table 11 above, it was revealed that there is a moderate positive relationship between problem solving electronic skills and the state of implementation of e-governance initiatives in Iganga Municipality.

Correlations

Table 12: A correlation coefficient for problem solving electronic skills and E-governance initiatives

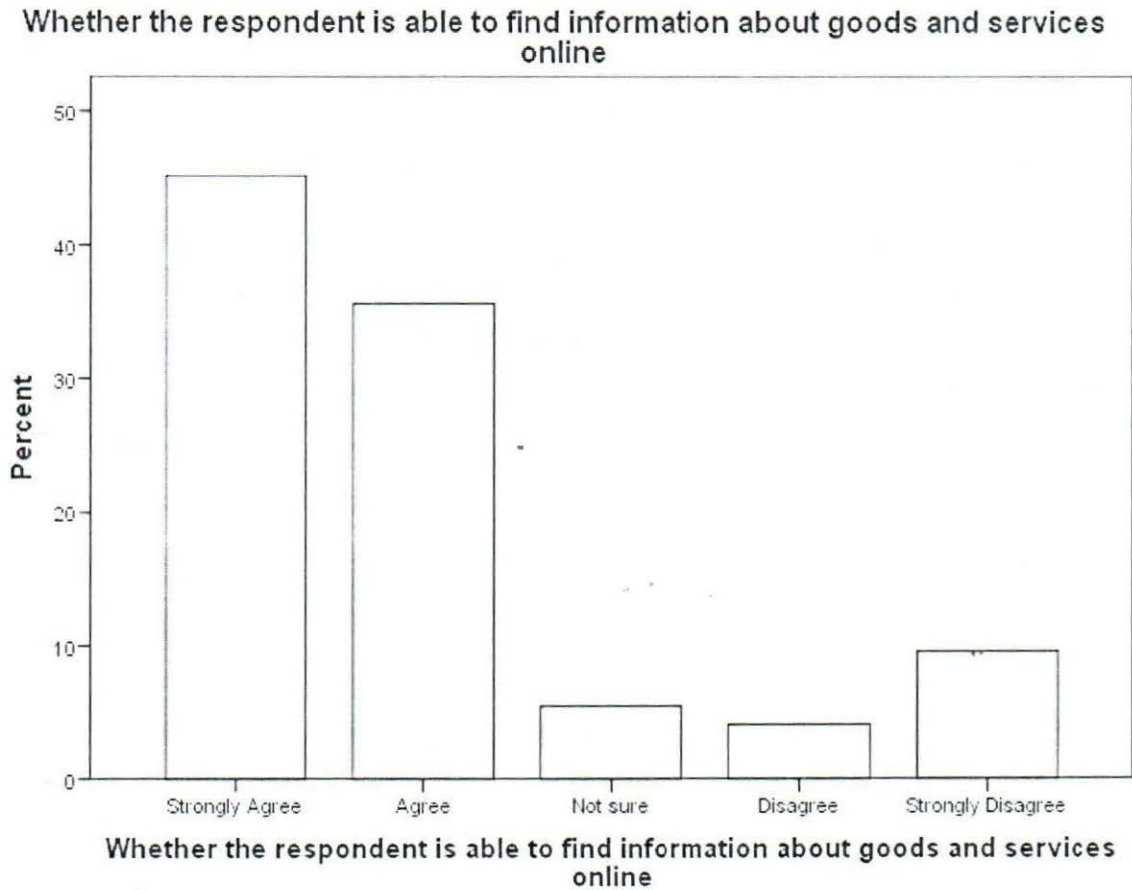
		Mean-PS	E-governance initiatives that being implemented in Iganga Municipality
Mean-PS	Pearson Correlation	1	.146
	Sig. (2-tailed)		.217
	N	73	73
E-governance initiatives that being implemented in Iganga Municipality	Pearson Correlation	.146	1
	Sig. (2-tailed)	.217	
	N	73	73

The results in the above table indicate that there is a weak positive insignificant relationship between problem solving electronic skills and E-governance initiatives in Iganga Municipality.

4.3 The contribution of Employees' information-communication electronic-skills towards implementation of E-governance initiatives among the employees in Iganga Municipality.

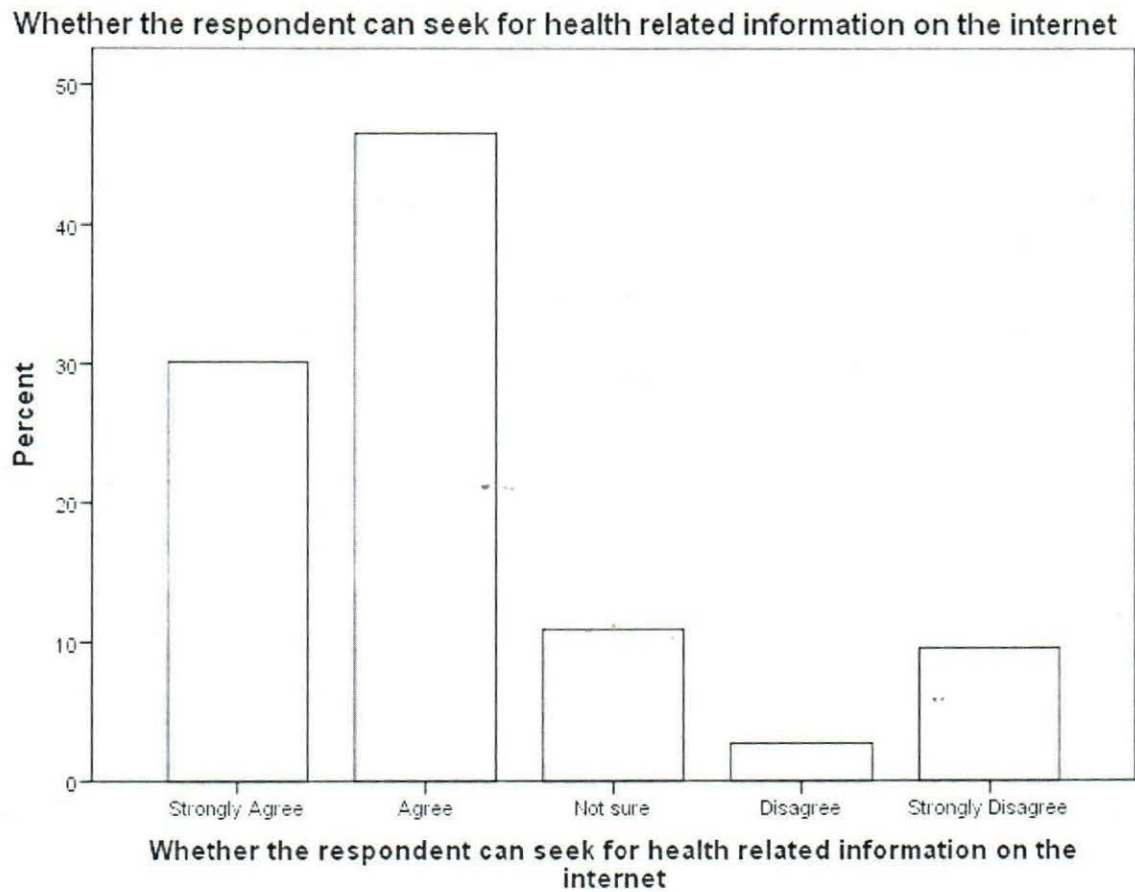
As portrayed in section 1.5 of chapter one, the second objective of the study sought to assess the contribution of employees' information-communication electronic skills and the state of implementation of E-governance initiatives in Iganga Municipality. In order to fulfil this objective, data was collected using questions indicated in Section C of the questionnaire portrayed as (Appendix 1). Other additional information was obtained through interviews that were made with the Administrators of Iganga Municipality and the verbatim availed. As such descriptive analysis was made and the results were indicated as below.

Figure 2: Whether the respondents were able to find information about goods and services online



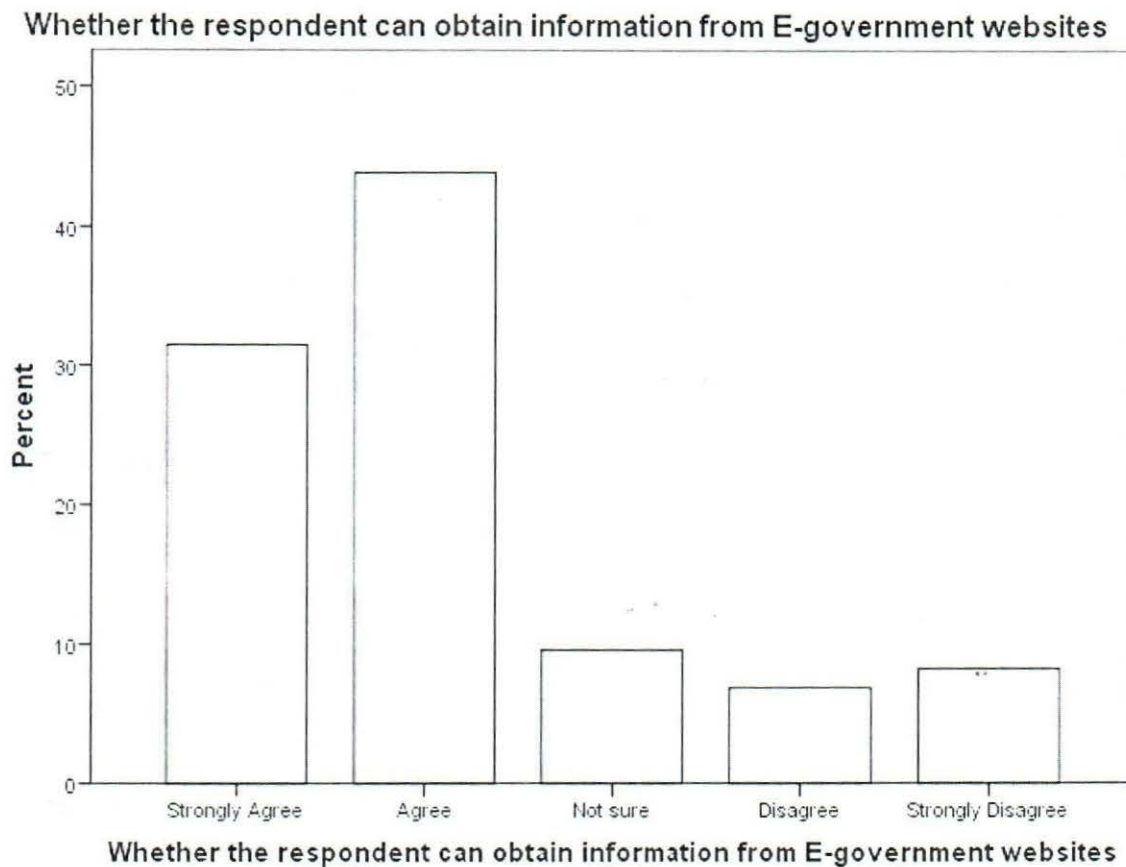
From the study findings in Figure 2 above it can be revealed that close to 44% of the respondents strongly agreed that they could find information about goods and services on line, close to 35% could agree, close to 5% were not sure, 4% disagreed and about 12%. This implies that most employees in Iganga Municipality were in position to get information about goods and services online which would enable the implementation of E-governance initiatives in the Municipality.

Figure 3: Whether respondents can seek for health-related information on the internet



From the study findings in Figure 3 above, close to 30% of the respondents strongly agreed that they could seek for health-related information on the internet; close to 46% agreed, while close to 12% were not sure. On the contrary, 2% disagreed and about 10% strongly disagreed. This implies that most employees in Iganga Municipality had the ability to seek for health-related information on the internet; this is a positive development towards implementation of E-governance initiatives in the Municipality.

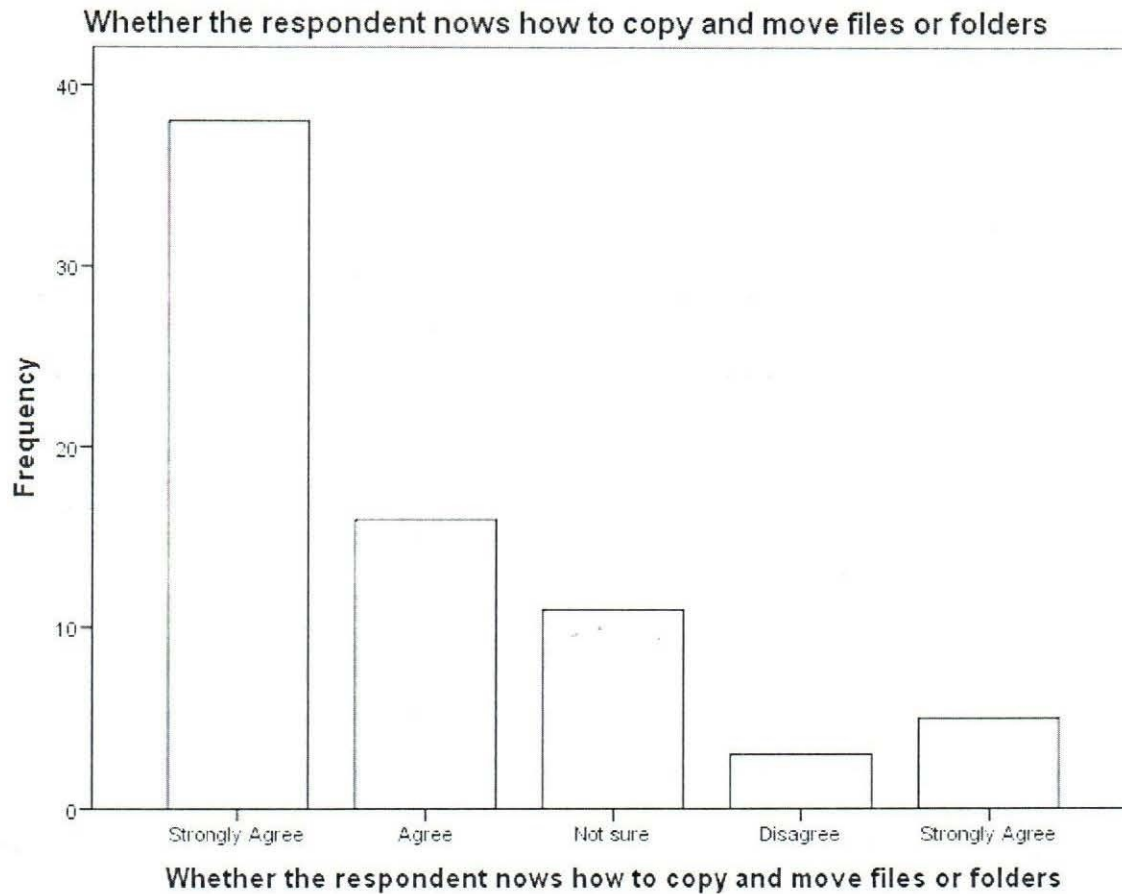
Figure 4: Whether the respondents could obtain information from E-government websites



Findings in Figure 4 above reveal that close to 32% of the respondents strongly agreed that they could obtain information from E-government websites, approximately 42% could agree, close to 10% were not sure; while 7% disagreed and about 9% strongly disagreed. This implies that most employees in Iganga Municipality were in position to obtain information from E-government websites and this would enable the implementation of E-governance initiatives in the Municipality.

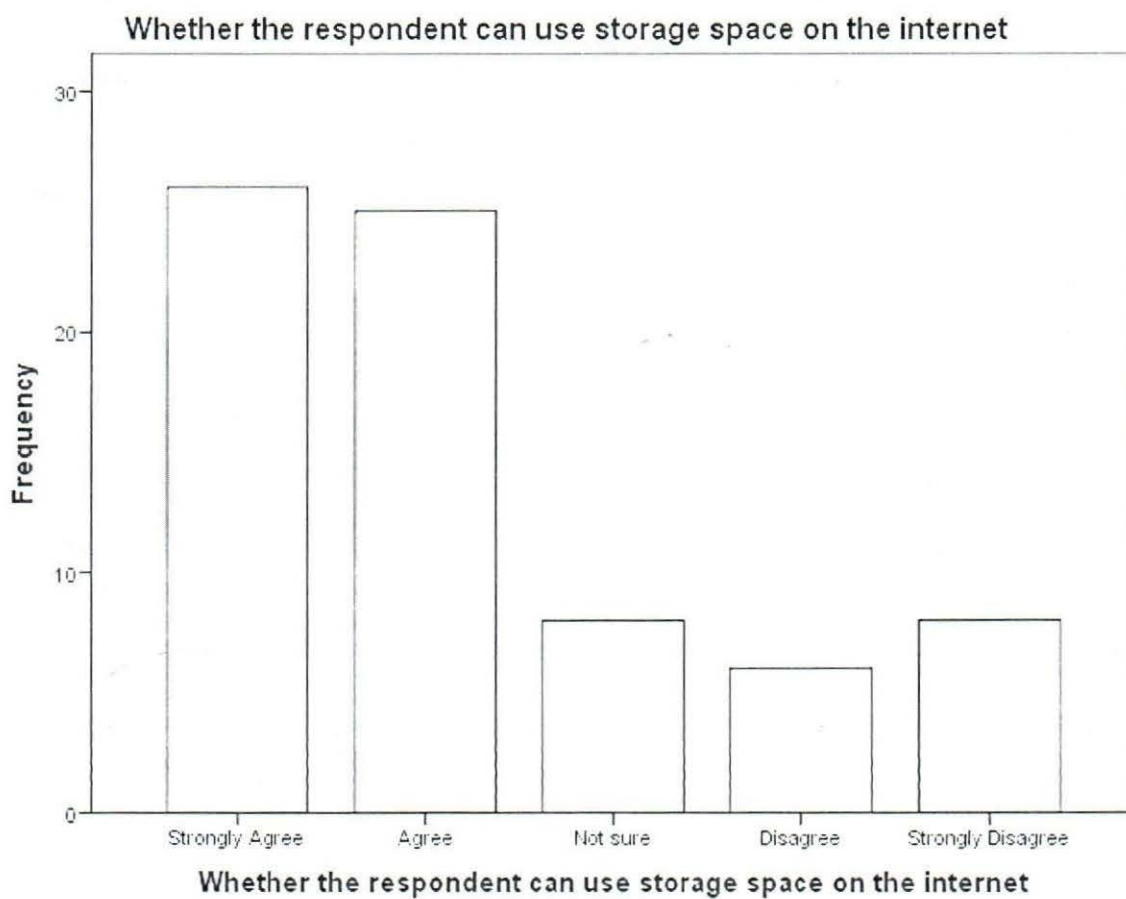
This was also supplemented with interview responses from employees for example " *I am very familiar with information-communication skills and I even sometimes help new workers for example when they want to register with Uganda Revenue Authority to get Tin Numbers and other related issues*".

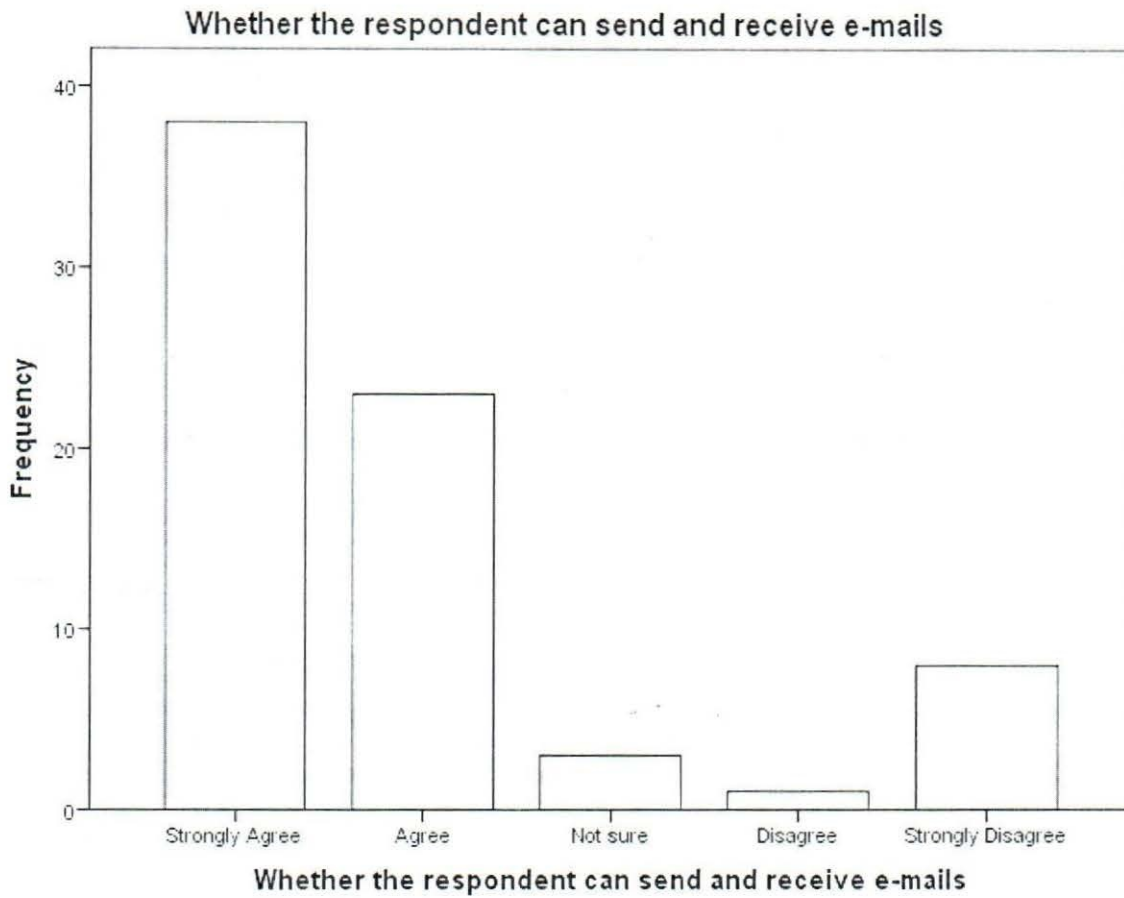
Figure 5: Whether the respondent knows how to copy and move files or folders



Findings in Figure 5 above reveal that close to 37% of the respondents strongly agreed that they could send and receive e-mails, approximately 17% could agree, close to 12% were not sure; while 3% disagreed and about 6% strongly disagreed. This implies that most employees in Iganga Municipality were in position to copy and move files or folders from one computer to another and this would enable the implementation of E-governance initiatives in the Municipality.

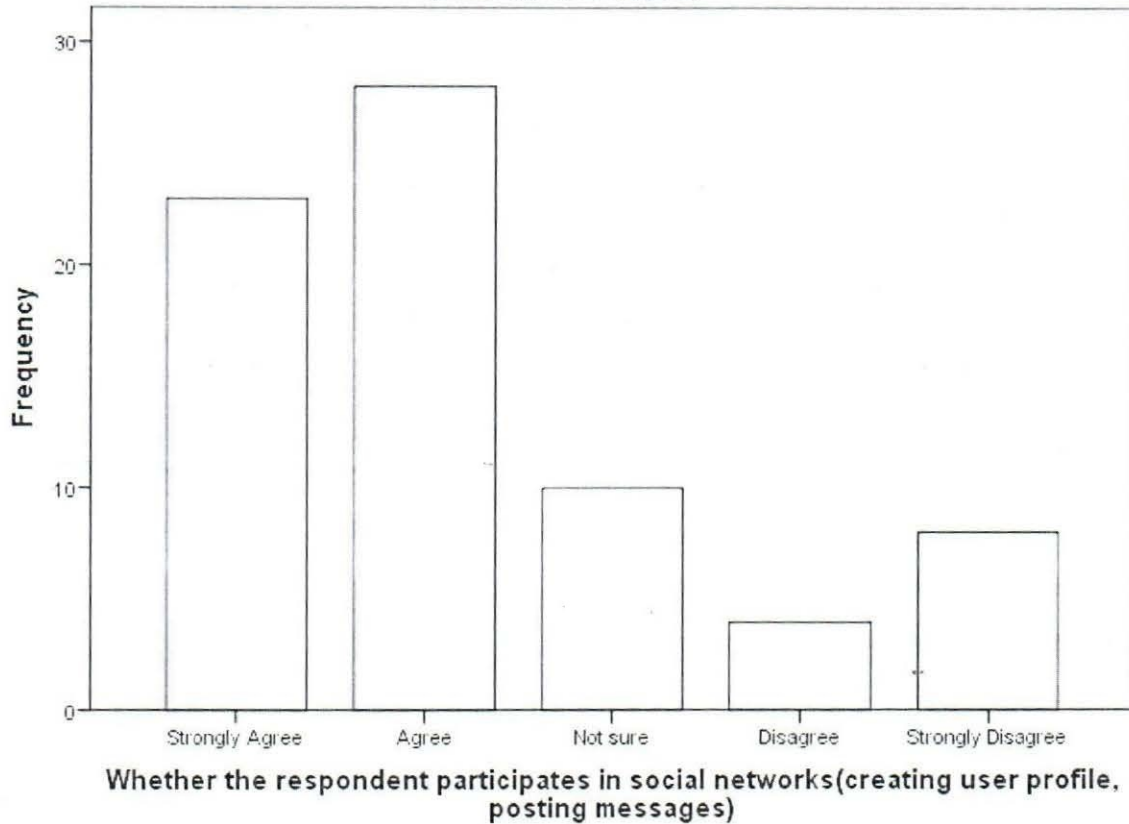
Findings in Figure 6 below reveal that close to 26% of the respondents strongly agreed that they could send and receive e-mails, approximately 24% could agree, close to 8% were not sure; while 5% disagreed and about 8% strongly disagreed. This implies that most employees in Iganga Municipality were in position to copy and move files or folders from one computer to another and this would enable the implementation of E-governance initiatives in the Municipality.





Findings in Figure 7 above reveal that close to 36% of the respondents strongly agreed that they could send and receive e-mails, approximately 22% could agree, close to 4% were not sure; while 2% disagreed and about 9% strongly disagreed. This implies that most employees in Iganga Municipality were in position to obtain send and receive emails and this would enable the implementation of E-governance initiatives in the Municipality.

Whether the respondent participates in social networks(creating user profile, posting messages)



Findings in Figure 8 above reveal that close to 24% of the respondents strongly agreed that they could participate in social networks (creating user profiles, posting messages), approximately 28% could agree, close to 12% were not sure; while 4% disagreed and about 9% strongly disagreed. This implies that most employees in Iganga Municipality were in position participate in social networks (creating user profiles, posting messages) and this would enable the implementation of E-governance initiatives in the Municipality.

4.5 The relationship between Employees' software electronic-skills and the implementation of E-governance initiatives among the employees in Iganga Municipality.

As portrayed in section 1.5 of chapter one, the third objective of the study sought to establish if a relationship exists between of employees' software electronic skills and the state of implementation of E-governance initiatives in Iganga Municipality. In order to fulfill this objective, data was collected using questions indicated in Section D of the questionnaire portrayed as Appendix 1, of this research report. Other additional information was obtained through interviews that were made with the Administrators of Iganga Municipality and the verbal responses were availed. As such a spearman rank correlation was made and the results were indicated as in table 9 below.

Table 12: Spearman Correlation.

			Software electronic skills of the respondents	E-governance initiatives that being implemented in Iganga Municipality
Spearman's rho	Software electronic skills of the respondents	Correlation Coefficient	1.000	-.045
		Sig. (2-tailed)	.	.708
		N	73	73
	E-governance initiatives that being implemented in Iganga Municipality	Correlation Coefficient	-.045	1.000
		Sig. (2-tailed)	.708	.
		N	73	73

4.5.1 Software Electronic-Skills

From the results in table 8 above, there is a moderate negative relationship between software electronic skills and the state of the implementation of E-governance initiatives in Iganga Municipality which is not statistically significant. This therefore implies that for E-governance initiatives to be effectively and efficiently implemented within Iganga Municipality, top administrators should provide training in software electronic skills of the employees as

supplementary ones in addition to most crucial ones like the problem-solving electronic skills and information communication electronic skills.

Qualitative findings also revealed that Iganga Municipality does not have an ICT office and definitely lacks ICT technicians to help the rest of the workers in cases of breakdown of computers for example some respondents said that:

We do not have ICT technical staff to help us in case of computer breakdown, software installation and other computer related things that are too technical and require such staff and as a result, it leads to delays and sometimes sharing of working computers when others are down.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion, conclusions and recommendations basing on the findings of the study. As required, once the findings have been presented in chapter four, there is need to discuss them and come up with final conclusions and recommendations that are in tandem with the objectives of the study.

5.2 Discussion

5.2.1 The relationship between Employees' problem solving electronic-skills and the state of implementation of E-governance initiatives in Iganga Municipality.

The first objective (see section 1.5 in chapter one) intended to examine if a relationship exists between Employees' problem-solving electronic skills and the state of implementation of E-governance initiatives in Iganga Municipality.

Study findings in table 8 showed that there was a positive relationship between problem solving electronic skills and the state of implementation of E-governance initiatives in Iganga Municipality and the respondents also believed that having these skills is very fundamental to the implementation of E-governance initiatives.

The findings are in line with NITA-U (2018), who assert that problem solving electronic skills help an employee to establish digital needs and resources, in order to be in position to come up with rational decisions on most applicable digital tools based on the purpose or need, to solve conceptual problems through digital means, to creatively use technologies, to solve technical problems, to update own and others' competence.

According to NITA-U (2018), IT training for local government staff is critically relevant, both in terms of basic IT skills and knowledge as well as in building their general security awareness.

For this particular objective, the findings were in total agreement with the existing literature on problem solving electronic skills and the implementation of E-governance initiatives.

5.2.2 The contribution of Employees' information-communication electronic-skills towards implementation of E-governance initiatives among the employees in Iganga Municipality.

The second objective (see section 1.5 in chapter one) of the study was to assess the contribution of Employees' information-communication electronic-skills towards the implementation of E-governance initiatives among the employees in Iganga Municipality.

Study findings showed that the respondents agreed that they were familiar with information-communication electronic skills; they were also of the view that having the said skills is crucial for the implementation of E-governance initiatives as portrayed in the verbatim response below obtained using the interview method from one of the Human Resource Officers; *"I am very familiar with information-communication skills and I even sometimes help new workers for example when they want to register with Uganda Revenue Authority to get Tin Numbers and other related issues"*.

According to the Department of eLearning, Republic of Slovenia (2015), information is a key asset to the success of organizations. However, managing it in contemporary society requires an individual to have digital information skills which comprise of the ability to be prudent to the sources and assess content. Utilization of digital tools is a skill the individual ought to get, keep and always develop, if he or she is to be a digitally informed and a prudent citizen.

Boer (2002), argues that E-informing entails searching and disseminating information on purchasing from customers and sellers through the internet and therefore, possession of information electronic skills by the local government workers of Iganga Municipality is very fundamental and would enable the efficient and effective implementation of E-governance initiatives in Uganda.

According to NITA-U (2018), every day, every minute, more information is added to the internet, with no sign of slowing down. Being digitally literate means being able to sift through so much information, being able to understand a message and to communicate it effectively to other and this is very fundamental especially in local governments because workers can even teach each other on how to digitally perform work.

Baily (2008) opines that to communicate and also transact in digital environments, to share resources through online tools, to link with others and to collaborate through digital tools, to interact with and to participate in communities and networks, cross-cultural awareness, communication electronic skills are very key.

In connection to the above, due to the fact that technology is ever changing and also changing the way public administration is conducted, local government workers in Iganga Municipality need to always be taken through refresher courses as these shall always be key in keeping them updated on their communication electronic skills which eventually would ensure sustainable implementation of E-governance initiatives in the Municipality and the eventual better service delivery.

The findings for this particular objective were completely in agreement with the literature available: that is in tandem with the topic of study in that they portrayed that information-communication electronic skills are very fundamental:

The Belgian Development Cooperation (2017), looks at digitization of work in local governments as being instrument in making them catch up with the fast changing technology world and definitely the world of work and as such, the Rwandan Decentralization Support Programme (RDSP) funded by the Belgian Development Cooperation (BTC) is contributing to digitization in several ways:

The implementing partner of RDSP, the Local Administrative Entities Development Agency (LODA) is in the process of implementing the Citizen Monitoring System (CMS) that will involve registration of citizens for monitoring purposes. This is a digital system to seek feedback from citizens related to issues they could have with infrastructure development and social protection. RDSP is supporting training on the use of the CMS system for LODA and District staff (Belgian development cooperation, 2017).

5.2.3 The relationship between Employees' software electronic-skills and the implementation of E-governance initiatives among the employees in Iganga Municipality.

This was the third objective of the study (see section 1.5 in chapter one) and from the results in table 8, there was a moderate negative relationship between software electronic skills and the state of the implementation of E-governance initiatives in Iganga Municipality.

According to the (ECDL Foundation, 2017), computer skills refer an individual's potential to utilize the software (and sometimes hardware) of a computer. They include: basic computer skills like managing files and folders under an operation system environment, intermediate skills which include being able to use a word processor, e-mail, spreadsheets, databases and to use the Internet and advanced skills which include programming and use of computer for scientific research.

In connection to the above, the ECDL Foundation, (2017) contends that there is need for the local government employees to be made aware of these skills to enable the digitalization of their work and the working environment. This therefore implies that though software electronic skills had a moderate negative relationship with the state of implementation of E-governance initiatives in Iganga Municipality, the top administrators of the municipality should not ignore them. That is to say, these should be used as supplementary skills to those of problem solving and information-communication electronic skills.

Though most available literature portrays a positive significant relationship between problem solving electronic skills and the implementation of e-governance initiatives, the findings for objective number three derogated from this as they indicated that there was a moderate negative relationship between software electronic skills and the state of the implementation of E-governance initiatives in Iganga Municipality.

5.3. Conclusions

Basing on the preceding discussions, the following conclusions can be made.

In line with research question 1, the results indicated that there was a positive relationship between problem solving electronic skills and the implementation of E-governance initiatives in Iganga Municipality. Therefore, in order to ensure the effective implementation of E-governance initiatives in Local governments in Uganda, there is need to empower local government employees with problem solving electronic skills through continuous training and other ICT refresher courses as this will help to equip them with the necessary competencies that they will require.

With regard to research question 2, the results portrayed that most respondents agreed that they had information-communication electronic skills and that these skills contribute to the implementation of E-governance initiatives in Iganga Municipality. This implies that continuous training of the Local government employees in Iganga Municipality about the information-

communication electronic skills could enable the efficient and effective implementation of the E-governance initiatives in Iganga Municipality and Uganda at large.

In line with research question 3, the results indicated that, there is a moderate negative relationship between software electronic skills and the state of the implementation of E-governance initiatives in Iganga Municipality which is not statistically significant. This therefore implies that for E-governance initiatives to be effectively and efficiently implemented within Iganga Municipality, top administrators should put much more emphasis on the problem-solving and information-communication electronic skills of the employees as software electronic skills are not so instrumental in the implementation of e-governance initiatives though they are needed for supplementary purposes.

5.4 Recommendations

From the initially drawn conclusions, it is recommended that:

For finding 1, the researcher recommends that in order to ensure the effective implementation of E-governance initiatives in Local governments in Uganda, there is need to empower local government employees with problem solving electronic skills through ICT refresher courses as this could help to equip them with the necessary competencies that they would require.

For the revelation 2, the researcher recommends continuous training of the Local government employees in Iganga Municipality about the information-communication electronic skills could enable the efficient and effective implementation of the E-governance initiatives in Iganga Municipality and Uganda at large.

For finding 3, the researcher recommends the need for the central government to support local governments financially in order to enable the Municipality to establish office of the head of ICT with ICT specialists as this would help to continuously guide local government employee's in software electronic skills and others in general.

Generally training of local government employees especially those whose work does not require computer use is also needed in problem solving, information-communication skills and software electronic skills as supplementary should be supported by the Municipal administrators as this will

help employees` develop competences in ICTs which could help local governments implement e-governance initiatives and ensure better service delivery to the citizens

5.5 Limitations of the study

Politicization vehemently posed negative effects to this study. The political situation in the country at the time of the study very volatile and this has been exacerbated by the involvement of politics in everything causing uncalled for suspicions which limit access to some information. Awareness creation and stakeholder engagement was done by the researcher to reduce its effects.

Secondly poor ICT infrastructure: Internet service and telecommunications structure are still in their embryonic state in Uganda (NITA-U, 2018). However, if funding is increased, then it will be mitigated.

Besides negative attitude towards research tools especially questionnaire by some of the respondents was a serious since it takes them long time to fill them in.

Furthermore conservatism of the Local government officials and other employees limited this study since these people are anti-change.

Finally, bureaucracy of the Local government structures which is a norm in the functioning of local governments led to uncalled for delays which vehemently had significant negative impacts on this study.

5.6 Suggestions for further research

The researcher suggests that a study be conducted on E-government and Service delivery in local governments in Uganda.

Additionally, the researcher suggests that a future study also needs to be conducted on how the political and technical wing relationships affect the service delivery in local governments in Uganda.

It is also suggested that a future study be conducted on the effect of Bureaucracy on electronic service delivery in Local governments in Uganda.

The researcher also suggests that a study on ICT availability and electronic service delivery is also a probable one in future given the fact that inadequate ICTs provide a potential challenge.

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APPENDIX 1: QUESTIONNAIRE FOR IGANGA MUNICIPALITY LOCAL GOVERNMENT EMPLOYEES

Dear Respondent,

I am George Mugavu pursuing a post graduate course at Kyambogo University leading to the award of a Master’s Degree in Organization and Public Sector Management of Kyambogo University. This self-administered questionnaire is for the purpose of gathering data on the relationship between local government employees’ digital literacy and the implementation of E-governance initiatives in Uganda. You have been selected to participate in this study as a key person in providing relevant and reliable information to the study. The information provided will be used to make conclusions that will improve the implementation of E-governance initiatives especially in local governments in Uganda. This study is strictly for academic purpose only. Please kindly, contribute to it by answering the attached questionnaire.

Your responses will be treated with all the necessary confidentiality.

Note: E-governance refers to the use of information and communication technologies and particularly the internet, as a tool to achieve better government.

Thank you

Yours Sincerely

George Mugavu, Student.

INSTRUCTIONS: Please kindly tick on the right opinion

SECTION A: RESPONDENT’S BIO DATA

1. What is your gender?

Male	Female
<input type="checkbox"/>	<input type="checkbox"/>

2. What is your Age bracket?

20-30 years	30-40 years	40-50 years	50-60 years
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. What is your highest level of Education?

Certificate	Diploma	Degree	Postgraduate qualification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. For how long have you worked in Iganga Municipality?

Less than a year [] 1-3 years [] 4-6years [] 7years and above []

5. Do you have any E-governance initiatives that you are implementing using ICTs e.g. E-taxation, E-registration, E-procurement, integrated payroll system and others?

Yes [] No []

SECTION B: PROBLEM SOLVING ELECTRONIC SKILLS AND THE IMPLEMENTATION OF E-GOVERNANCE INITIATIVES AT IGANGA MUNICIPALITY.

6. The following statements are related employee's Problem-solving Electronic skills and implementation of E-governance initiatives. By ticking, kindly indicate the extent to which you strongly Agree (1), Agree (2), Not Sure (3) Disagree (4) Strongly Disagree (5) with / of each.

	Problem-solving electronic skills & the Implementation of E-governance initiatives	1	2	3	4	5
1	I can transfer files or folders between different computers					
2	I can install software or applications					
3	I find it easy to change settings of any software					
4	I can access and use on-line learning material					
5	I can communicate with citizens via internet					
6	I have done/ can do an online course					
7	I can sell goods or services via websites					
8	I have ever communicated with instructors or students via education websites or portals					
9	I have ever used internet banking					
10	I use mobile money transactions using a mobile app or USSD ably					

SECTION C: INFORMATION -COMMUNICATION ELECTRONIC SKILLS & THE IMPLEMENTATION OF E-GOVERNANCE INITIATIVES AT IGANGA MUNICIPALITY.

The following statements explain the relationship between an employees' Information-communication Electronic skills and implementation of E-governance initiatives. By ticking, kindly indicate the extent to which you strongly Agree (1), Agree (2), Not Sure (3) Disagree (4) Strongly Disagree (5) with / of each.

	Information- communication electronic skills & the Implementation of E-governance initiatives	1	2	3	4	5
1	I am able to find information about goods and services online.					
2	I can seek for health related information on the internet.					
3	I can obtain information from E-government websites.					
4	I know how to copy or move files or folders					
5	I use storage space on the internet.					
6	I can send and receive e-mails					
7	I participate in social networks(creating user profile, posting messages)					
8	I know how to telephone and make video calls on the internet.					
9	I can upload self-created photos, texts and videos to the internet.					

7. SECTION D: SOFTWARE ELECTRONIC SKILLS & THE IMPLEMENTATION OF E-GOVERNANCE INITIATIVES AT IGANGA MUNICIPALITY.

The following statements explain the relationship between an employee's Software Electronic skills and implementation of E-governance initiatives. By ticking, kindly indicate the extent to which you Strongly Agree (1), Agree (2), Not sure (3) Disagree (4) Strongly Disagree (5) with / of each.

	Software Electronic Skills & the Implementation Of E-Governance Initiatives	1	2	3	4	5
1	I can use word processing software					
2	I know how to use spread sheet software					
3	I can use advanced functions of spreadsheet software					
4	I can use software to edit photos, videos and audio files.					
5	I can create presentations or documents with integration of texts, pictures, tables and charts.					
6	I am in position to write a code in a programming language.					

APPENDIX 2: INTERVIEW GUIDE FOR MANAGEMENT.

Dear respondent,

I am a final year student pursuing the Masters in Organization and Public Sector management of Kyambogo University. I am conducting a study on the “**Local government employees’ digital Literacy and the implementation of E-governance initiatives in Uganda**”, with **Iganga Municipality as my focal area**. I am required to submit a research report as part of the partial requirements for the award of the said Master`s degree. The essence of this interview guide is to gather information to enrich the study findings. The study shall purely be academic and thus any information provided will be treated with the necessary confidentiality.

Thank you for your participation.

1. What is your age bracket?
2. What is your highest level of Education?
3. What is your position in the organization?
4. Is it true that government of Uganda is encouraging Local governments to use ICTs in Service Delivery?
5. Do you think it is important for Iganga Municipality to use ICTs in the provision of services to the citizenry?
6. Do you think Iganga Municipality has what it takes to implement E-governance (especially with respect to staff)?
7. Are there some ICTs systems that have been adopted by Iganga Municipality to respond to the Government call?
8. On average, do members of top management have adequate ICT skills?
9. In your view, what challenges has Iganga Municipality faced in the process of adopting the use of ICTs in the delivery of services to the citizens?
10. Can the use of ICTs in service delivery in Iganga Municipality be sustainable?
11. Suggest ways how digital literacy can be improved.

THANK YOU FOR YOUR TIME AND COOPERATION

APPEDEX 3: BUDGET

No	ITEM	QUANTITY	COST	TOTAL
1.	Handbag	1	65,000	65,000
2.	Reams of paper	2	20000	40,000
3.	Umbrella	1	30,000	30,000
4.	Pens	1 box	60,000	60,000
5.	Note books	3	5000	15,000
6.	Pencils	5	500	2500
7.	Box Files	2	15,000	60000
8.	Stapling Machine	1	10,000	10,000
9.	Typing and printing	70 Pages	1000	70,000
10.	Hard cover binding	6 Copies	10,000	60,000
11.	Transport Costs	7 times	10,000	200,000
12.	Others			300,000
13.	OVERALL TOTAL			982,500/=

APPENDIX 4: RESEARCH WORK PLAN AND TIMEFRAME

ACTIVITY	TIME FRAME
CONCEPT WRITING	October 2018
CHAPTER ONE	November 2018
CHAPTER TWO	January 2019
CHAPTER THREE	February and March 2019
COMPLETION OF PROPOSAL	April 2019
DATA COLLECTION & ANALYSIS	May 2019
DRAFT REPORT WRITING	End Of May
DRAFT CORRECTION	Beginning of June
FINAL REPORT WRITING	Mid June
SUBMISSION	30th /06/2019

APPENDIX 6: MORGAN, KREJCIE TABLE (1970) USED TO DETERMINE SAMPLE

Populasi (N)	Sampel (n)	Populasi (N)	Sampel (n)	Populasi (N)	Sampel (n)
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

IGANGA MUNICIPAL COUNCIL



P.O Box 232, Iganga
Head Office: Town Hall Bldg Saza Rd
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+256 – 772 446986 DTC

Office of the Town Clerk

Our Ref: IMC/156/1/19

6th May, 2019

✓ George Mugavu
17/U/14756/GMOP/PE
Kyambogo University.

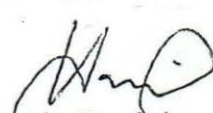
RE: PERMISSION TO CARRYOUT RESEARCH.

Reference is made to your letter signed by the **Dean Graduate School, Kyambogo University** dated **2nd May, 2019** concerning the above captioned.

This communication serves to inform you that permission has been granted to enable you carry your research on the topic, "**Local Government Employee's Digital Literacy and the Implementation of E-governance Initiatives in Uganda; case study of Iganga Municipality**" for two (2) weeks the Human Resource Officer will be your work based supervisor.

Our attention is drawn to section J-f of the Uganda Government **Standing Orders and Circular Standing instructions No. 3 of 2011**, relating to internship placement in the Public Service.

Wishing you the best.


Kasala Daniel

Deputy Town Clerk, Iganga Municipal Council

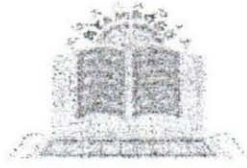


Copied to:-

The Dean Graduate School, Kyambogo University.
The Human Resource Officer, Iganga Municipal Council

Mission: To improve the quality of life of all residents through commercial rejuvenation, enhancement of service delivery, sustainable environment and industrial revitalization.

KYAMBOGO



UNIVERSITY

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Website: www.kyu.ac.ug

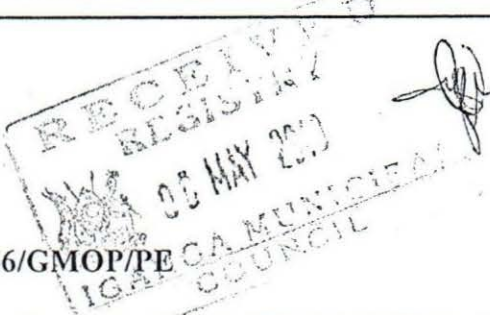
Office of the Dean Graduate School

May 2, 2019

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: GEORGE MUGAVU – 17/U/14756/GMOP/PE



This is to certify that **George Mugavu, Reg. No.17/U/14756/GMOP/PE** is a post Graduate student at Kyambogo University, pursuing a Master's Degree in Organization and Public Sector Management of Kyambogo University. He is carrying out research as one of the requirements of the course. He requires data and any other information on this topic entitled:

“Local Government Employee’s Digital Literacy and the Implementation of E-governance Initiatives in Uganda; A case study of Iganga Municipality”.

Any assistance accorded to him is highly welcome. He is strictly under instructions to use data and any other information gathered for research purposes only.

For any inquiries, please refer to the above address for assistance

Thank you.

Assoc. Prof, Muhammad Wambede Nabalegwa
DEAN

