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Abstract

The integration of Information Communication Technologies into service delivery plays a role in improving the efficiency and effectiveness of Local Government services. However, the effectiveness of these new innovations has encountered a lot of challenges. This paper is based on a literature review of the journal articles and documents relating to ICT integration into service delivery and investigates the challenges to the successful integration of ICT in the ministry of local government of Uganda. In order to conduct a systematic review, the guidelines suggested by Okoli and Schabram (2010) were followed. In total 80 relevant articles and documents have been examined all of which have been published in leading journals, conferences proceedings, reports from government and non-government organizations. The results show that Low skill base to use existing equipment, Inability to repair existing equipment due to lack of in-house expertise, Inadequate operational funds to procure and maintain existing equipment, Lack of customized systems for service delivery functions mandated to the local governments, Uncoordinated ICT initiatives, Power fluctuations, Lack of commitment and initiatives by staff are among the most common challenges to the successful ICT integration of in the Ugandan ministry of local government. The study suggests that the Ugandan government can benefit from the advantages of ICT integration if they address these challenges collectively allowing for the sensitivity of certain socio-economic realities.

Keywords: *ICTs, e-government, Service delivery, ICT Challenges, ICT integration*

1.0 INTRODUCTION

The use of information communication and technology (ICT) to support the work of government institutions and agencies with the objectives of delivering public services and information in a more convenient, citizen-centric and cost-effective manner is called e-governance (Nuria & Charles,2010). E-governance is also defined as the use of ICT for promoting more efficient and cost-effective government, more convenient government services, greater public access to information, and more government accountability to citizens. Regarding e-government, a distinction can be made between the objectives for internally focused processes (operations) and objectives for externally focused services (Backus, 2001).

According to Obot (2010), Ministry of Local Government is a Government Ministry responsible for guidance and overall vision of Government in local Governments. The Ministry oversees the Government structures and operations at local levels in Uganda such that they are harmonized and supported to bring about socio-economic transformation of the whole country. The local government structures include, the District, County, Sub County, Parish and Zone. The ministry of local government of Uganda is in charge of the administration and service delivery at all these levels.

The Ugandan Government has been implementing a series of policies to integrate Information and Communication Technologies (ICT) into their development management as well as into a variety of areas of social life. The Government hopes that, by improving services, foreign investors will feel more confident about the management of their investments and, at the same time, Ugandan citizens will increase their participation and control over public affairs (Obot, 2010).

2.0 RELATED LITERATURE

2.1 ICT integration

ICT refers to a myriad of stand-alone media, including telephone and mobile telephony, radio, television, video, tele-text, voice information systems and fax, as well as computer-mediated networks that link a personal computer to the internet. ICT is an integrated system that incorporates the technology and infrastructure required to store, manipulate, deliver and transmit information, the legal and economic institutions required to regulate ICT access and usage, and the social and inter-personal structures which allow information to be shared, facilitate access to the ICT infrastructure, and through which innovation takes place (Wangwe, 2007).

ICT Integration is the use of ICT to introduce, reinforce, supplement and extend skills.ICT integration has been attracting a great deal of interest among researchers in professional development communities and human-computer interaction circles. In the same vein, ICT integration has been fueling contentions amongst stakeholders and administrators of ICT in institutes of higher learning, schools and corporate training environments (Pisapia, 1994).

2.2 ICT status in Uganda

In 1996 Government adopted the telecommunications policy which led to the liberalization of the sector, creation of Uganda Communications Commission (UCC) as the regulator and privatization of the then incumbent, Uganda Posts and Telecommunications Corporation (UPTC). More reforms in the telecommunications sub-sector were pronounced in 2005 which further opened it up to full liberalization. In as much as the sub-sector was being reshaped using liberalization to attract foreign investments, government realized that there were new issues emerging due to rapid changes in technology and characterized by the advent of the internet, that it embarked on a process to address these new trends, which culminated in the approval by Cabinet of National ICT Policy Framework in 2003 to guide the development of the ICT sector in Uganda.

In spite of these policy interventions, different aspects of ICT remained scattered in different Government ministries, leading to creation of silos and lack of coordination in development and implementation of programmes. To address this, a Ministry of ICT was created in 2006, with an aim of bringing all aspects of ICT under one roof. One of the first things the new Ministry addressed was to work on the law to create the National Information Technology Authority-Uganda (NITA-U). Its main objective was to focus on harnessing the Information Technology subsector to contribute to national development. Indeed, NITA-U came into existence in 2009, but with a policy lacuna. Government went back to the drawing board and developed the National IT Policy to cushion NITA-U and indeed the policy was approved by Cabinet in 2011. Recently, an Information Management Services Policy has also been developed to address poor management of information resources within government and beyond (National ICT Policy of Uganda, 2012).

2.3 ICT infrastructure in The Ugandan Government

Government of Uganda (GOU) with support from the Chinese government embarked on laying the National Data Transmission Backbone Infrastructure (a fibre optic cable network). By the end of 2011 (i.e. completion of Phase II), a total of 1,548km of fibre optic cable had been laid in the country (Business Vision, 2011).

An e-Governance project named the DistrictNet was implemented in four districts (one from each of the regions) of the country; these include Lira, Mbarara, Mbale, and Kayunga, representing North, West, East and Central regions, respectively (De Jager & Van Reijswoud, 2006; Kazooba, 2009; Van Reijswoud & De Jager, 2009; IICD, 2010). In addition, the District Administrative Network programme of the Ministry of Local Government was designed and implemented (IICD, 2010). The latter represents a critical boost to the sector given the fact that earlier studies about ICT usage in the sector especially in Local Governments had revealed a grim picture (Wasukira & Naigambi, 2002).The World Bank and African Development Bank (2012) observe that the mobile phone takes a lead role among the ICTs that have revolutionalised Africa; it (mobile phone) is the lead internet, voice, and government services platform – a situation clearly evidenced in Uganda where, by 2012, there were 850,200 mobile internet subscribers compared to 84,558 on fixed internet subscription, thanks to a 99% telephone network coverage and a tele-density of 45% (APC & CIPESA, 2012; Kalemera *et al.*, 2012).

Government of Uganda through the Uganda Communications Commission embarked on protecting this vital e-Governance infrastructure on two fronts: first, compulsory registration of mobile phone SIM cards was initiated to ensure that use of the device is not only controlled but also harnessed. Secondly, the Commission also embarked on streamlining mechanisms to stem the hitherto high prevalence of counterfeit mobile devices on the networks which had been linked to poor quality service.

2.4 ICT Integration in service delivery in the Ugandan Ministry of Local Government

The system of Local Government in Uganda is based on the district, as a unit under which there are lower Local Governments and Administrative Units. The Local Government system consists of Local Government Councils administering and /or providing services to demarcated geographic areas spanning from villages (which are administered by Local Government Council I) to districts (which are administered by Local Government Council V). Local councils are mandated with executive powers to formulate policies and provide services to the population they lead (Wasukira & Naigambi, 2002).
The local government ministry of Uganda had a traditional way of service delivery for a long time until 2004 when the government of Uganda enacted a policy of integration of ICT in all government entities. This traditional way of service delivery was categorized with a lot of protocol and bureaucracy which would make it hard for the public to receive government service in time. It would take a lot of time for a file to move from one part of the country to another and many more examples of the challenges can be sighted. Despite all efforts the government of Uganda has put up to integrate ICT into service delivery in all ministries, the ministry of local government has lagged behind due to that factors this review is going to highlight.

2.5 Benefits of Integrating ICT into service delivery

Integration of ICT into service delivery helps the public to have the capability of information sharing, citizens engage with the government on a variety of issues, both at the individual level and at the community level, to file complaints, express their anger, demand services, and influence policy. In the past, governments at various levels have tried to share information to engage with the citizens, but most experiments were not successful. In recent years, several developed country governments have created websites to distribute a portion of the data they collect. It is a concept for a collaborative project in municipal government to create and organize a culture of open data or open government data (Bhatnagar ,2014).

E-governance can help reduce corruption in a variety of ways. For instance, it helps to takes away discretion from the government functionary thereby curbing opportunities for arbitrary action which often results in corruption. Secondly, government employees cannot help anyone jump the queue since the date and time are automatically stamped on service requests and they cannot be rejected arbitrarily and a reason must be recorded if an application is rejected (Bhatnagar, 2014). The ministry of Local Government has benefited from the integration of ICT into service delivery through the introduction of information management systems like;

a*) Local Government Information Communication System (LOGICS)*

LoGICS was developed under the Local Government Development Program (LGDP I) and is comprised of three integrated parts, namely: Monitoring and Evaluation Sub-system; Compliance Inspection Sub-system; and Computerized Software Sub-system, which enables the data generated from the Monitoring and Evaluation sub-system and Compliance Inspection subsystem to be entered, verified, analyzed, stored and disseminated to the various stakeholders. LoGICS is a multi-sectoral information system covering all sectors in a Local Government including: Education, Health, Water, Roads, Prisons, Police, Production, Planning, Finance and Administration, Council, Social Services etc. (Rwangoga & Baryayetunga,2006).

b) Local Government Financial Information Analysis System (LGFIAS)

This system captures all relevant financial data on revenues and expenditure for all levels of Local Governments. The system has been designed with facilities to analyze and generate in-depth reports on revenue performance, expenditure, donor funds and Central Government transfers to the Local Governments. The reports generated are used by the Local Authorities, Central Government, Development Partners, NGOs and other stakeholders for decentralized fiscal planning, policy formulation and decision-making functions (Rwangoga & Baryayetunga, 2006).

c) Performance Monitoring Management Information System (PMMIS)

The Ministry hired a Consultant to develop a Performance Monitoring Management Information System and a Client Feedback System. This reporting framework, when complete, will provide end-users with means of accessing data from both systems, as if it were stored in a single system. It will also provide users with means of drilling down/up and to dynamically generate reports of interest. This reporting framework is currently undergoing testing at the ministry (Rwangoga & Baryayetunga, 2006).

Table 1: ***Benefits of Integrating ICT into Service delivery***

Benefits to Local Government Workers	**Benefits to the public**
Reduce need for paper forms and manual data entry.	All day access to information and services.
Reduce number of face to face inquires.	Eliminate need to fill out paper forms.
Latest technology used to streamline operations	End long lines at government offices.
Eliminates time consuming manual processes	Dealing with government entity will change from hindrance to convenience.
Allows agencies to give higher level of service in these times of reduced budgets.	

Source: Adopted from: Andrade (2007).

3.0 RESEARCH METHODOLOGY

This paper is based on a comprehensive literature review. The initial stage of the review was to identify the intended goals and purpose of the review so as to ensure that the purpose of the review is clear to the readers (Okoli & Schabram, 2010). A typical literature review process comprises of different stages such as searching, collecting, prioritizing and reading with a purpose so as to seek out key issues and themes which are then presented and discussed as critically as possible (Wellington *et al.,* 2005). In our case, the following procedures have been adopted:

a) Selection of papers

We systematically surveyed the literature relating to e-government published. We started off with the leading e-government and information system (IS) journals contained in the top ten ICT4D journals listed in the ICT4D Journal Ranking Table by Heeks (2010). The leading e-government journals reviewed include but not limited to: *Electronic Journal of Electronic Government (EJEG), International Journal of Electronic Government Research, Journal of e-Governance, Government Information Quarterly, Journal of Electronic Government, European Journal of Information Systems, Information Systems Journal, Information Systems Research, Journal of MIS,* and *MIS Quarterly*. This search method helped us to set a boundary and enable us to get relevant articles.

b) Search procedure

We carried out a systematic search (Webster & Watson, 2002) as it was considered as a means through which literature that was suitable for this study could be better captured. In selecting the literature that was deemed useful for this study, attention was not placed on a single set of journals or geographical area. Search engines such as Google, Google Scholar, LibHub and Ebscohost amongst others were used. The web portals of the government and other news articles were explored so as to get their own perspective on the subject being studied. We choose the initial keywords: electronic government, ICT integration, ICT integration Challenges, ICT in local government. After carrying out a preliminary search, these key words were further expanded to: the use of ICT, barriers, local government, egovernment and digital government.

Because search engines such as Google and Google scholar might not be enough to find relevant articles for our study, we decided to use other procedures. Furthermore, while reviewing these leading journals we went forward by identifying other articles with the help of other web sources so as to determine which of these articles should be part of the review. Also, we thoroughly searched for relevant information for all the individual local governments in Uganda.

c)Data collection and analysis

After selecting the relevant papers for this study and using the above-mentioned search procedure, the next challenge was collecting relevant articles from the papers found. The initial search came up with 110 articles which were later narrowed down to 80 (news articles, information from government portals and some international organizations included) based on usefulness and relevance to the study. These relevant articles were then systematically analyzed to come up with relevant themes for our study. As we read the abstracts of the selected papers,

we came up with a database which further helped us to analyze the papers based on their themes and subject of discussion. In some cases, we also read the introduction of the papers as well as their conclusion to be able to vividly establish the usefulness of this paper to our study.

In order to analyze the data collected we started by designing a four-column table containing the different papers found. The columns were the publication venue, author, year and the challenges mentioned in the paper. Next, we designed a second table containing all the challenges we found. On this table, numbers are used to indicate the number of times a challenge is mentioned in a particular year. Once this was done, we further grouped these challenges based on the commonalities between them as presented below in the results section.

4.0 RESULTS AND DISCUSSION

4.1 Factors affecting the successful integration of ICT into service delivery in the local Government Ministry of Uganda.

ICT integration into service delivery has not reached its full expectation and implementation. This is due to a number of challenges.

1) Most staff at the District local Government Headquarter do not have access to computers and other ICT equipments, this was sighted in the report made by (Wasukira & Naigambi,2002) It was revealed that access to computer equipment is not easy because computers available are most of the time being used by Secretaries. In some cases, the District Planning Units, which almost always have computers, provide access to staff from other sectors. Water, Heath, Finance, Education sectors have received some computers under specific projects implemented by their line ministries but still their use appears to be limited to those specific applications and therefore restricting their use to other users. No district has successfully set up a resource centre as envisaged in the decentralization road map.

2) The dependence of government ICT projects on external funding or donor funding as stated by (Waiswa & Obura,2014). Waiswa & Obura (2014) observed that most e-Governance initiatives in Uganda are largely funded or initially dependent on external funding; this has implications on sustainability when external funding expires. For example, when IICD phased out support to the e-Society initiative that was launched in 2009 in Kasese District of Uganda to help civil society organizations and citizens to exert more influence over local government through active participation in planning, development and feedback processes, sustainability concerns gripped the stakeholders including IICD itself (IICD, 2010).

3) Most of the District local Governments lack Local area Networks and further connectivity to other local Government agencies, this was also reported by (Wasukira & Naigambi,2002). They observed that only one district (representing 9 %) has a LAN. Further, for this one district, the LAN is connected for computers in the databank room only.

4) Low skill base to use existing equipment, This is by far the greatest barrier, and it is the first one that must be dealt with before any kind of integration of ICT into service delivery can start

moving forward. There tends to be some luck of knowledge about ICT, interpreted as simply an advanced technology that requires a lot of expertise, a lot of money, and very advanced skills. It is not appreciated as a means of creating efficiency and cost-effectiveness. This is on both sides of the Service deliverer and the receiving end which is the public.

5) District local governments either do not have websites or for some which have, they are not functioning (Nabutsabi, 2012). Many districts lack websites, while 78 district websites had been commissioned by 2010, only 20 were operational and also literature written by (Asiimwe & Lim, 2010) reports that many government websites are just partially usable owing to flaws in "design layout, navigation and legal policies. The sites also hardly cater for persons with disabilities yet e-Governance is expected to be all-inclusive.

6) Most of the rural parts of the country where the local government district offices are located have a problem with internet connectivity and even those areas with connectivity, it seems very expensive for them as sighted by (Waiswa & Obura, 2014). Furthermore, the bandwidth is always low (few can afford high bandwidth) to spur efficient online service delivery. To worsen matters, many programmes undertaken to boost internet or data transmission coverage are always either poorly monitored or eroded by corruption.

7) The rise of cyber crime is also another factor which has push off most of the public from the use of ICT facilities as it is confirmed by (Tushabe & Baryamureeba, 2007). In their paper that Internet users in Ugandan are both victims and perpetrators of Internet crime and all victims did not report to the police. The major cases involved inter country situations including within Nigeria, Congo, Kenya and Canada.

8) Administrative structural challenges also highly affect service delivery in the Local Government ministry in Uganda. For instance, the chief executive officers, ranging from 50 – 60 years are the biggest and most critical challenge. They grew up with the old methods, and yet they determine the direction and budgets of organizations. They have excellent understanding of organizational culture and dynamics as well as direction. They have the conceptual ability to think far and deep, looking at the organization as a whole. This is where the initial emphasis needs to be put.

Secondly, there are the senior executives, ranging from 40 – 50 years who tend to be more ICT aware while possessing many or all of the abilities of the chief executives, but they are also generally conservative and also stuck in the old ways. They make the recommendations and generally control the power (taken as influence) in orgisanations. This group must be on board if organizational change is to occur. It is also in this group that the necessary champions of change in the organization will be found. Those people who combine the senior executive organizational knowledge and influence with a pioneering spirit and passion. These champions must be comfortable in dealing with both the highest and the lowest levels in the organization.

Another category of challenging group is the junior executives, ranging from 30 – 40 years who are a more dynamic group in that, if brought on board, they will ensure things are actually done. They understand the organization, have reasonable people skills, and link easily to the youngest

generation. They are comparatively easy to bring on board. Lastly, the young employees, ranging from 20 – 30 years are the ones who claim to know it all, and will have a lot of bright ideas. They unfortunately have neither authority nor power. They also lack full knowledge of organizational culture as well as people skills. They tend to be very short on conceptual skills – and unfortunately most organizations do not have entrenched programs for developing them. Any organization will benefit greatly by giving them ear and free reign in most technical aspects, and helping them to develop their conceptual and people skills, but they still tend to be largely back room (Tusubira & Mulira,2004).

5.0 CONCLUSION AND RECOMMENDATIONS

This paper reveals that the Integration of ICTs have a great advantage in improving all spheres of life including service delivery. This paper also reveals that there are many factors that have negatively influenced and slowed the successful use of ICTs in service delivery in the Ministry of Local Government of Uganda. These include; unavailability and inappropriate ICT infrastructure in the Local Government Sector; limited ICT knowledge and skills for both the local government workers and the public. Characterized by inadequate time for in-service courses for workers of the local government ministry and since this ministry deals with mostly the local people of whom mostly are uneducated, there is a big challenge of computer illiteracy in the public. Limited budgetary allocations and lack of proper coordination ICT policies at the different local government levels. Therefore, the integration of ICT into service delivery in the ministry of Uganda has met a lot of challenges. Further research can be done in the same area while studying the solutions to these challenges identified by the study and further ICT integration in other government ministries.

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