

# E-GOVERNMENT ADOPTION, IMPLEMENTATION, BENEFITS AND CHALLENGES: THE MALAWIAN EXPERIENCE

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## Abstract

*The rapid advancements in Information and Communication Technologies (ICTs) for the past decades have led to the growth of e-government (electronic government) practices as an alternative model of improving public service delivery. Thus, there has been increasing evidence among countries through the public policy formulation to enable e-government adoption and implementation for advancing national development agendas. In view of this, Malawi as a developing country has recognized the potential of adopting and implementing e-government model and efforts have been made to divert resources towards ICTs so that it is not left behind in the digital age. Therefore, this paper explores the current e-government implementation initiatives in Malawi. The paper also attempts to establish the critical challenges of implementing e-government, its impact on improving efficiency and accountability in public service delivery to citizens in light of so many domestic challenges and demands confronting Malawi. Based on the challenges established, the paper proposes a conceptual framework for e-Government implementation based on the local contextual environment of the country. The paper is based on a review of e-government literature on the experiences of developing and developed countries while aligning into Malawi's local contextual environment. It is anticipated that this paper will close the paucity of literature in e-government that exists in Malawi and provide a conceptual model that policy makers may adopt to expand the e-government programs in the country.*

**Keywords:** E-Government Adoption and Implementation; E-Government Challenges; Conceptual Framework; Malawi

## 1. Introduction

The rapid advancements in Information and Communication Technologies (ICTs) for the past decades have led to the growth of e-government (electronic government) practices as an alternative model of improving public service delivery governments around the world (Chen, Chen, Huang, & Ching, 2006). E-government has therefore emerged as a key instrument for modernization and bringing reforms as governments are facing the new challenges of increasing their performance by adapting to the pressure of the new information society (Khalil, 2014).

Owing to this paradigm shift, Most African governments have decided to pursue public reforms by inculcating e-government practices into their development agendas (Bwalya, 2009). For instance, the past five years, strategic plans had been initiated in Senegal, Kenya, Botswana, South Africa, Kenya, Morocco and Namibia, among others. Seychelles and Mauritius are currently leading in Africa on e-government implementation (United Nations Survey of E-government

Development, 2014). Similarly, Malawi as a developing country has recognized the potential of adopting and implementing the e-government model and efforts have been made to divert resources towards ICTs so that it is not left behind in the digital age.

## 2. The Concept of E-Government

The advances in ICTs and internet technology in the 1990s led to the emergence of the concept of e-government. Since then, many studies have defined e-government in different ways: Biaglotti and Nammucc (cited in Huang, Ambra & Bhalla, 2002) defined e-government as a way of public administration to become more open and transparent, reinforce democratic participation, more service-oriented, providing personalized and inclusive services to citizens. E-Government has also been defined as the delivery of improved services to citizens, businesses, and other members of the society through drastically changing the way governments manage information (Kumar et al., 2007) Muir and Oppenheim (2002, cited in Nkwe, 2012) defined e-government as the delivery of government information and services online through the internet other digital means. The e-government also exist in four types: E-government to Citizens(G2C), E-government to Business (G2B), E-government to Employees (G2E) and E-government to Government (G2G) (Ndou, 2004).

There are many models that have been developed to illustrate the phases of e-government implementation (see Gartner, 2000; Siau & Long, 2005; Chan, *et al*, 2005). Though these models have different, their characteristics are similar in nature. However, only Gartner's four stage model seems to be prominent since it is widely cited in literature. The model has four evolutionary stages or phases of e-government, each one more demanding than the other. These are: **Publishing (web presence)**: this involves putting information on websites; **Interaction**, allowing citizens to enquire about services, procedure, etc. and filling up forms and submitting them online; **Transaction**: allowing payments online and finally **Transformation**: This is a stage where information systems are integrated.

## 3. E-Government Initiatives in Malawi

The Malawi Government developed an E-Government programme as part of the Malawi Information and Communications Technology (ICT). The purpose of the E-government Programme is to promote the Malawi's socio-economic development, supporting the aspirations of Vision 2020. The E-Government Programme focuses on the modernization and improved efficiency of public services. These are some of the strategies that have been designed to:

- “Modernize the public service through the development and utilization of ICT to support its operations and activities
- Promote e-government through government to-government, government-to-business, and government-to-citizens initiatives
- Promote the use of ICT to facilitate the decentralization of government services and operations, and support the delivery of business and government services in rural areas” (IST Africa, 2015)

Based on such strategies, Malawi is currently ranked 166 out of 190 countries on United Nations E-government Development Index (EGDI) (2014) with a score of 0.2321 and 0.1732 on Online Service Index, 0.0480 on Telecommunication Infrastructure index and 0.4889 on Human capital

index. Though the ranking indicates some progress being made by the Malawi Government, there is much work to be done in order to achieve high success. The Malawi Government is undertaking various e-government initiatives an effort to achieve the vision 2020. Some of these projects have been completed, and others are being piloted. These initiatives are creation of websites and computerization of information systems in various government ministries, departments, parastatals and agencies.

### **3.1 Malawi Government Websites**

E-government implementation involves phases that my help to determine growth. The Malawi government has over 40 ministries, departments and agencies that have already developed the websites to provide information to the general public. However, most of these websites are still at the early phases of publishing and interaction. These results confirm agree with the study findings by Makoza (2015) who reported that majority of government websites were in the presence and interaction phases and there were no websites for transaction and integration phase. The results are consistent with indicators which ranked Malawi on 166 of 190 economies for its competitiveness exploit e-government (UNEGDI, 2014).

### **3.2 Computerization of Government Operations**

#### **Integrated Financial Management Information System (IFMIS)**

It is funded by the World Bank which aims to provide timely and accurate financial information while enforcing standardized integrated financial management reporting system for government Ministries and departments

#### **Malawi Traffic Information System (MaTIS)**

This systems facilitates motor vehicle registration, issuing of driving licenses and road permits in the Department of Road Traffic and Safety Services (IST Africa, 2015)

#### **Personal Property Security Registry System of Malawi (PRSSM)**

The system has been introduced by the Department of Registrar General in the Ministry of Justice and Constitutional Affairs. The purpose of this on-line service is to provide a facility for lenders interested in taking collateral as security (Department of Registrar General, 2015).

#### **Judiciary Case Management Information System (JCMIS)**

The purpose of this system is to increase efficiency of judicial and prosecutorial staff, promotional and protection of the fundamental rights of those in contact with the formal justice system, improve online access to service information for all court users and administration, tracking, flow and monitoring of all civil and criminal cases. It is funded by European Union (Kasalika, 2016).

#### **The Payroll and Human Resource Management System**

This was purchased by the Government with the aims to overhaul the locally developed government establishment, personnel, payroll, pensions, loans management (PPPAI) that was initiated in 1998-99 (IST Africa, 2015).

### **Automated System for Customs Data (ASYCUDA)**

The system is implemented by Malawi Revenue Authority. The systems allow electronic submission of documents, electronic release of notification, electronic payment of taxes through interface with bank systems, single window of submission of information, valuation control, etc. This fully embraces the recommended best practices stipulated in the Revised Kyoto Convention and SAFE Framework Standards of the World Customs Organization (Malawi Revenue Authority, 2016)

### **Machine Readable Passport Issuing System**

This system is being implemented by the Department of Immigration. It is a fully integrated turnkey passport issuing system incorporating state-of-the-art biometric enrolment, issuing software, and Toppan digital passport printers. The department has launched a new ICT innovation border control system in at its international airports, called the Integrated Border Control System, as part of its objective for computerization of all its border posts (Department of Migration, 2015).

## **4. Benefits of E-government**

A fully implemented e-government in Malawi would be able to produce the following: reduced costs for government operations, increased effectiveness, excellent service provision to stakeholders, transparent and accountable transactions, increase transparency and reduce corrupt activities in public service delivery, network and community telecentres creation, valuable decision making (Mtingwi, 2012). Due to number of challenges, majority of e-government initiatives in Malawi have registered partial success.

## **5. Challenges to E-government implementation in Malawi**

Despite the fact that Malawi Government has put e-government adoption as one of the top priorities on its development agenda, various implementation challenges continue to hamper the advancement of e-government initiatives in the country. These challenges are distinguished from diverse views and applications as follows (Mtingwi, 2012):

*Poor ICT Infrastructure and Connectivity.* The penetration rates of ICT in Malawi remain the lowest on the African Continent due to the country's weak economy (Mtingwi, 2012; Makoza, 2015). Majority Malawi population is located in rural areas. According to Malawi Communication and Regulatory Authority (MACRA, 2015) internet penetration rate in rural areas is 3.4% and the number of people who own a computer is 0.4%. This means that e-government remains a challenge unless the rest of the population is connected.

*Inadequate Power Supply.* Lack adequate power is a barrier to e-government implementation. This is because all the ICT devices that support e-government need power to work effectively. However, in Malawi, the majority of the population is not connected to electricity. This means they do not have access to e-government services. Even in urban areas, where computers and internet exist, there are very few and they are affected by frequent power interruptions and load shedding. This is impacting negatively the e-government implementation effort.

*Digital Divide.* Digital divide in Malawi is very high, majority being the rural communities who are heavily affected (Nkwe, 2012). Majority of them cannot own a desktop computer, laptop, and smartphones and have no access to internet. The situation is also aggravated by lack of information literacy skills. Majority of Malawians lack the abilities to independently, find, evaluate, synthesize and ethically use information due lack of information literacy skills component such ICT, financial, cultural, environmental, social media literacies and others. These are barriers to effective implementation of e-government initiatives in the country.

*Low ICT Adoption and Use.* Due to cultural differences, gender, lack of information literacy skills, attitudes and perceptions, acceptance and use of ICT devices and services by majority of Malawians remain a big challenge and this has an overarching implications to e-government implementation efforts.

*Resistance to change.* Resistance to change has been reported by many studies as the major obstacle to e-government implementation both in developed and developing world. Similarly, in Malawi majority of government employees, see that e-government initiatives as threat to their positions and they fear of losing jobs and power.

*Lack of Collaboration.* Collaboration and cooperation between and among all private partners, civil society, Non-Governmental Organizations are critical drivers of e-government implementation processes (ICT4D Policy, 2006). Though Malawi government has shown a lot interest in Public-Private-Partnership (PPP) concept in other sectors, the link to e-government is not well coordinated.

*Lack of Financial Resources.* Majority of e-government projects are financed by donors especially when those projects are being piloted. When the donors stop financing, e-government projects are either abandoned or delayed thereby impacting negatively on their efforts to succeed.

*Weak and Inconsistencies in Legal and administrative frameworks.* Malawi has a number of policies and pieces of legislation that support the e-government efforts. These include Malawi ICT for Development (ICT4D) Policy (2006), National Access to Information Policy (2014), ICT Policy (2013) and the Malawi Communications Act (1998) and the much awaited Access to Information Act (2016) (MACRA, 2015). While these policies provide conducive legal environment for E-government to operate, they have some weaknesses and inconsistencies in various sections that need to be addressed and aligned to e-government strategy.

## **6. The Way Forward**

As a way forward, the paper recommends that for Malawi to achieve e-government which is successful and sustainable, there is need to have an implementation framework based on the country's local environment rather than adopting models that were developed in the western countries. This concurs with Bwalya (2011) who noted that the majority of e-government in Africa are failing to register success stories because they are implemented using E-government Implementation Models designed from the developed world without due reference to local contextual environment. Therefore, a new model is required for Malawi to register success to e-government projects being implemented and others that government intends to implement in future.

This proposed model postulates that for Malawi Government to realize the full benefits of e-government. It has incorporated variables expressed in previous models, first and foremost, there is a need to set up a robust government working environment taking into consideration all the attributes stated, such as strong political will and management support and others that will lead to better quality of e-government services. High quality e-government services will lead to customer being satisfied. Thus, e-government success.

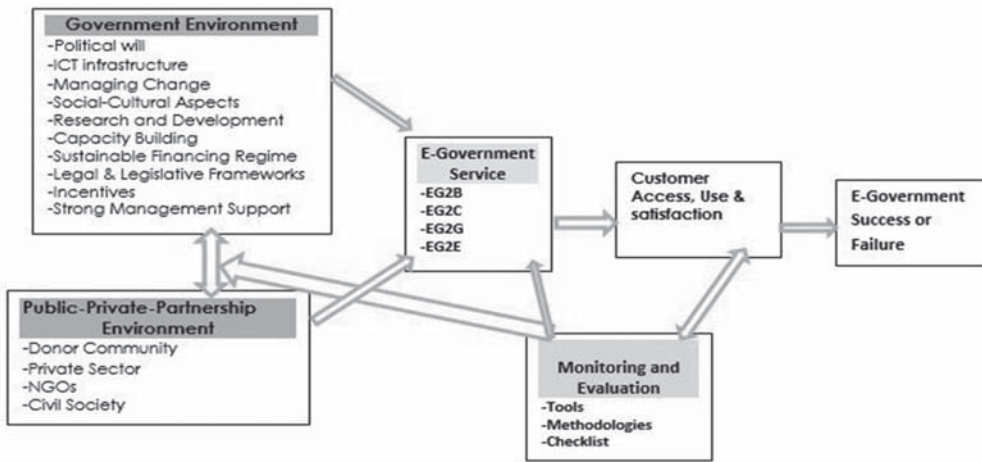


Figure 1: Proposed E-government Implementation Framework for Success (EGIFS)

The second issue is collaboration of government with other stakeholders towards e-government implementation processes. E-government implementation is a complex process that requires a multi-sector approach. Therefore it is important for Malawi Government to collaborate with other stakeholders such as the private sector, the donor community, the non-governmental organizations (NGOs) and the civil society to provide sustainable e-government services to the public. This can be done through Public-Private- Partnership (PPP).

When users have access to and are able to use these services, they will be satisfied and this will further lead to e-government success. For e-government to work efficiently and effectively there is need to put in place monitoring and evaluation system. The monitoring and evaluation has to be conducted continuously as a feedback mechanism so that the problems identified could be rectified immediately. This evaluation can take place within the government environment, the PPP environment, the e-government services and the users. By incorporating the feedback mechanism therefore makes this proposed framework robust and holistic because it takes everybody on board such as the government and all the other stakeholders

It is also interactive since it provides feedback mechanism from the users on whether they are satisfied with services or not. This proposed framework is quite different from previous models which do not take into account the PPP environment and Monitoring and evaluation as part of the E-government Implementation agenda. The absence of the two has led to so many e-government failures in developing countries. Therefore, Malawi needs this E-government Implementation Framework for Success (EGIFS) which is flexible, robust, and holistic based on the country's local contextual environment. This study was limited to only the case studies that have been presented. It also quite important that in future more cases need to be analyzed in depth and this will pave the way even to test this model to establish its relevance.



## 7. Conclusion

In conclusion, the paper has highlighted the current status of e-government adoption and implementation in Malawi. The paper has also examined the challenges facing the government of Malawi in an effort to implement various e-government initiatives. Based on these challenges, the paper has proposed a conceptual model that Malawi has to adopt in order to successfully implement e-government. The papers further recommends that the government should find a way of financing e-government projects locally since reliance on donor aid has its own weaknesses.

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