ASSESSING THE STATUS OF E-GOVERNMENT DEVELOPMENT IN KENYA

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Abstract

E-government or "Electronic Government" is the use of Information and Communication Technology (ICT) to disseminate government services in an efficient and effective manner. Successful management of today's operations in governments require effective policymaking and system monitoring through data and information. E-government offers an increased portfolio of public services in a cost effective manner hence enabling governments to reinvent the way in which they interact with citizens, businesses, employees and other stakeholders. Consequently, countries have invested significant resources into collecting, processing, integrating, analyzing and reporting data through ICTs. The purpose of this paper is to assess the status and progress of e-government. In order to measure the status of e-government two indexes were used: E-government Development Index (EGDI) and Network Readiness Index (NRI). The study will adopt a theoretical approach by reviewing available literature on e-government in Kenya. Kenya has made some significant progress in ICT implementation and benefits including e-participation, accountability, planning, monitoring and information sharing. However, there are myriad challenges such as infrastructural deficiency, policy issues and change management to be surmounted before full benefits can be reaped.

Keywords: E-government; E-Government Assessment Schemes; E-Government Development Index (EGDI); Network Readiness Index (NRI); Kenya.

1. Introduction

Today ICT offers increased opportunities for economic development and plays a critical role in rapid economic change, productive capacity improvements and international competitiveness for developing countries. ICT has greatly contributed to the GDP of the global economy. The global information technology report (2015) cites a positive correlation between a country's ICT usage and its economic and social growth (WEF, 2015). To this end, governments are making ICT investments in the public sector to improve online delivery of services and enhance e-participation from its citizens. E-government initiatives have flourished in many developing countries such as Ghana, Senegal, Brazil, India, Chile, Argentina, the Philippines, and Malaysia among others where they are reaping the advantages of using ICT in the dissemination of public sector services (UN, 2014).

In Kenya, e-government initiatives are guided by the vision 2030 long term development blueprint. The vision is anchored on economic, social and political pillars. The economic pillar aims to ensure progression in important sectors like agriculture, education, health, water and

environment while the social pillar focuses on developing policies that will ensure equitable sharing of resources, justice and security. The political pillar endeavors to have a democratic political system that engages with its citizens in an open, transparent, accountable and ethical manner (GOK, 2007). Consequently, any e-government strategy must endeavor to create sustainable development by stimulating equitable economic growth, raising basic standards of living and facilitating digital inclusivity and citizen empowerment (UN, 2014).

Once articulated and operationalized it is critical to assess the progress made by such strategies. A review of literature unearths a gap in the documentation of the evaluation of capacity of governments to offer e-government services (World Bank, 2002; UN, 2003; Basant et al, 2006; Bhatnager and Singh, 2010). The purpose of this paper therefore, is to attempt to fill this gap by assessing the capacity of the Kenyan government to offer e-government services and offer proposals for future development projects in e-government.

2. Background

In e-government, most services are disseminated through websites hence the availability of online services, well developed telecommunication infrastructure and human capacity are important in ensuring success of e-government. The regulatory framework is equally important as countries that enjoy successful deployment of online services usually have good ICT policies and strategies (GIT, 2015).

The search for existing and current research on e-government included journals, government policy documents and conference materials. The focus was on studies that would help assess the progress of e-government in Kenya in relation to its legal framework and its preparedness in rolling out e-government initiatives. First, the regulatory status of Kenya regarding e-government was informed through an assessment of government documents including Kenya ICT Masterplan (2014), Ministry of ICT strategic plan (2013-2017), Kenya Vision 2030, ICT Authority Strategic plan (2013-2018) and World Economic Forum Global IT Report (2015). Secondly, the overall e-readiness of the Kenyan government in offering online services was interrogated through findings from the UN E-government Survey (2014) which applied the E-Government Development Index (EGDI) as a measurement tool and Global Information Technology Report (2015) which employed the Network Readiness Index (NRI) to assess the extent to which a government leverages digital technologies in the provision of services.

3. Literature Review

3.1 The Definition of E-government

Various definitions of e-Government exist in literature despite the fact that e-government is in its initial stages. Kumar and Best (2006) defines e-Government as the use of Information and Communication Technologies (ICTs) by government in its delivery of services. A much broader definition adopted in the study is the use of ICT within government, between governments and citizens, and between government and businesses to transform the efficiency, effectiveness, transparency and accountability of services rendered; and to empower citizens through access and use of information (World Bank, 2005) This is done to strengthen government performance in service delivery, communication and policy execution. E-Government includes electronic interactions of three types: government-to-government (G2G); government-to-business (G2B); and government-to-citizen (G2C). On the other hand, according to Lofstedt (2005), e-government

should not only be about online service delivery by government but about enhancing government processes through digital tools in order to bring a transformation in economic, social and political development of a country.

3.2 E-government Assessment Schemes

Several e-government assessment schemes have been developed by both scholars, government institutions as well as international bodies to measure the capacity for governments to disseminate online services.

3.2.1 United Nations E-government Maturity Model

The UN (2012) model is used to rank the maturity levels of government websites of member states. It has four stages. The first stage is emerging services level. In this stage the government websites serves to offer static information about government. The second stage is enhanced information services where websites provide a two way communication, where apart from email services, useful information can be downloaded and information searched through a search engine. The third stage is the transactional services where interaction with citizens is possible and users can be able to make online payments for services rendered. The final stage is the connected services where all services are linked through a single portal and the web portal can be personalized according to the needs of the citizen.

3.2.2 E-Government Development Index (EGDI)

The EGDI measures the willingness and capacity of governments to use digital technologies in order to disseminate public services (UN, 2014). It offers a tool that can be used by governments to gauge their positions and benchmark using best practices. The index is a weighted average of three components: Online Services Index (OSI); Telecommunication Infrastructure Index (TII); and Human Capital Index (HCI). According to UN e-government survey (2015) a country's position is evaluated using the following indicators:

Availability of online services

Most online services such as access to content, online payments, search systems, feedback mechanisms, tax filing, registration of businesses and data sharing are accessed through a website. Interactivity with government increases with increase of online services.

E-Participation

There is a paradigm shift of citizens from passive recipients of information to active producers of information (Lofstedt, 2005). Citizens are empowered and motivated to participate in public policy making and decision making. Citizens are encouraged to give their public opinion through use of emails, short message texts (SMS) and social media.

Collaborative governance

The indicator assesses the government's ability to share data roll out innovative online services and inculcate trust, transparency and accountability mechanisms in its service delivery. Government institutions share data and make investments in infrastructure and towards enhancing skills in their personnel.

Availability of multichannel mix

The world is moving towards use of technologies in ubiquitous ways where information can be accessed "anytime anywhere". Services can be rendered through mobile phones, social media, open access facilities like local digital centers among other initiatives.

Digital Divide

The technological era has resulted in digital exclusion of some vulnerable groups such as physically challenged members of the society, those living in the rural areas, the aged and the illiterate. E-government initiatives are assessed on the innovative use of digital tools and applications that would seek to include these groups of segregated people.

E-government usage

The ability to develop user friendly interfaces that are easy to use, tracking and monitoring tools, feedback mechanisms and collaborative systems help to increase the level of usage by both citizens, business community, foreign investors as well as public service officers.

Open government data initiatives

In accordance with a citizen's right to information, the open government data portals enable end-users to locate data sets about sectors like education, health, agriculture, finance, social welfare and environment. This results in improved public policy making and informed publications.

3.2.3 Network Readiness Index (NRI)

The NRI is a tool that measures the capacity of countries to leverage ICT for increased competitiveness and well-being. The NRI uses four sub-indexes: environment, readiness, usage and impact. In environment, indicators in political, legal, business and innovation environment are used while in readiness indicators include infrastructure, affordability and skills. A country's infrastructural development is evaluated through indicators like mobile network coverage, International Internet bandwidth, secured servers and electricity provision. Usage looks at individual, business and government capacity to use ICT. The economic and social impact part of the impact sub-index that uses indicators such as, the impact on poverty alleviation through cost reduction of services rendered, economic growth through innovations and levels of civil participation among others. (GIT, 2015)

4. Status of e-Government Development in Kenya

The Kenyan government has undertaken various initiatives to ensure public services are delivered effectively and efficiently to citizens, businesses and investors.

4.1 Regulatory Status of e-government in Kenya

The Kenyan constitution that was promulgated in 2010, guarantees every citizen the right to have access to information from the state. (GOK, 2010). It is with this spirit that the government has established the Information Communication and Technology Authority (ICTA) with a mandate to manage all ICT initiatives within government. In July 2011, the Open Government Data Initiative was launched to make key government data freely available to the public through a

single online portal (www.opendata.go.ke). Services such as census information, national and regional expenditure and information on key public services are provided through this portal. Kenya is the first developing country to have an open government portal in the Sub-Saharan Africa and the 2nd in the continent after Morocco (GOK, 2013).

The Kenya National ICT Master plan (2014) has been developed with the mandate of ensuring that Kenya is transitioned to a knowledge-based society by providing policies that would ensure universal access to public information safely through portals. It is through this strategic plan that has seen the liberalization of the ICT sector under the Foreign Direct Investment Initiative (FDI) which has created a conducive environment for foreign investors thus spurring growth in the telecommunication sector. For example, Statistics from Ministry of ICT show the impact of FDI saw an increase in mobile telephony companies which has resulted in an increase of mobile phone subscribers. As at March 2014, statistics show there were 31.8 million mobile users and 21.6 million Internet users (ICT Masterplan, 2014). Kenya has embraced high mobile penetration rate within its population which has had an impact on the way government uses mobile phone applications to reach out to citizens (GOK, 2014).The establishment of Kenya Internet Exchange Point in 2002 saw the increase of Internet penetration. Furthermore, the rollout of National Optic Fibre Backbone Infrastructure and four undersea fibre cables namely TEAMS, EASSy, LION and SEACOM, have provided high capacity broadband connectivity to government agencies, national and regional institutions, commercial service providers and citizens. As a result of these technologies, mobile money transfer systems have been developed through which the government is using services like money transfer systems.

According to the Kenya ICT Master Plan April 2014, the key driving force of successful online government services will be improving Kenya's e-government global ranking and ease of doing business. It will also focus on ensuring a "one-stop, non-stop e-government services" (ICT Masterplan, 2014)

4.2 HUDUMA Initiative

E-government is a paradigm shift over the traditional approaches in public administration by ensuring use of ICTs in the provision of quality services, transparency in governance, simplification of procedures, better office and records management, reduction of corruption, improved staff attitude, saving of time due to provision of services through 'one stop shop' among others.

In line with the government strategy to transform public service into a professional and customer-centred public service, the Kenyan government set up digital centres called HUDUMA centres through its HUDUMA Kenya initiative. The Huduma Kenya Program is an Integrated Service Delivery (ISD) strategy that aims at the delivery of Public Services through a "One Stop Shop" Model with a great emphasis in Customer Service Excellence. This "One Stop Shop" approach enables citizens and customers to access various public services and information from a single location and through integrated service platforms (Ng'aru and Wafula, 2015). These services include renewal of business and driving licenses, online tax returns submission, search and registration of business names and welfare groups, reporting of public complaints, student loan application and repayment services, issuance of Kenya police abstract, online tracking of passport and identification issuance among others. Huduma centers are coordinated by the Ministry of Devolution and Planning through the Huduma Kenya Secretariat and have been set up in major counties of Nairobi, Mombasa, Kisumu, Machakos, Nakuru, Eldoret, Kakamega,

Nyeri, Embu and Narok (Ng'aru and Wafula, 2015). Further, more initiatives will be rolled out including an online e-Huduma web portal to provide integrated services offered by various government ministries, departments and agencies (Ng'aru and Wafula, 2015)

4.3 Measuring the e-readiness of government

4.3.1 UN e-Government Maturity Model

According to a UNDP report (2002) on online service development, Kenya with other countries in Africa such as Namibia, Mozambique, Tanzania, Uganda, Zambia and Zimbabwe were in the second stage (enhanced stage) whereby websites have content, which is dynamic and specialized such as government registrations that are frequently updated. The findings further revealed that South Africa was the only country in Africa which was moving to the transactional stage where governments have secure transactions such as obtaining VISA, passports, death records, licenses and permits online. No African country was found to have fully integrated and seamless websites

4.3.2 Global IT Report- Network Readiness Index

The quality of the e-Government operational environment affects greatly the success of ICT services of a country. In 2015, Kenya was ranked 86 out of 143 countries with a Networked Readiness Index (NRI) of 3.8 out of 7.0. The impact of e-government initiatives in social and economic fronts was favorable at position 51 out of 143 countries. This was attributed to the use of innovative products like MPESA and PostaPay, which are money transfer systems, in implementing online payment mechanisms. The use of such money transfer systems has greatly reduced cost of transacting with government hence raising the basic living standards. The use of mobile phones was another contributing factor that has led to bridging the digital divide as more people who have access to mobile phones can access government services. The mobile penetration rate stands at 78.2% (ICT Masterplan, 2014). According to the study, Kenya was ranked position 72 in the environment index and 83 in its usage of government services by citizens, business community and within government. In e-readiness the country's infrastructural development, affordability of services and capacity of users' skills was evaluated and ranked position 107 out of 143.

4.3.3 E-Government Development Index (EGDI)

According to UN e-Government survey (2014) all African leaders increased their e-government development index value but lost in comparative performance around the world, except for Kenya and Morocco where Kenya gained in world ranking from position 124 (2010) to 119 (2014) out of 193 UN member states with an overall EGDI of 0.3805. Kenya has performed well in E-participation and this is attributed to the use of mobile phones. Statistics show that by the end of the first quarter of 2014 there were 31.8 million mobile phone subscribers (ICT Masterplan, 2014) Citizens make use of their mobile phones and social media to engage with government in discussions concerning public policies and governance. The launching of open government data initiative also helped propel Kenya's ranking in the global scale.

5. Recommendations

The development and implementation of e-government has led to the realization of benefits such as reduction of bureaucracy, round the clock accessibility of services, fast and convenient transactions, increased transparency and accountability, improved staff productivity and easy flow of information. However, although there are many successes in e-government there are

also failures (Heek, 2003). One clear observation is that the implementation of e-government is hindered by inadequate ICT infrastructure, lack of ICT literacy skills and availability of online services. A review of Studies by Mungai (2009), Eldom (2005) and Nyamchama (2004) established drawbacks to the implementation of E-Government projects in Kenya. The findings showed that among other challenges, there is shortage of highly skilled ICT professionals has led to high cost of support services by ICT software and equipment vendors; high cost of ICT equipment; long procurement procedures have delayed e-government projects from being implemented; and existence of digital divide.

The focus of rolling out e-government projects needs to devolve to the local level. According to Lofstedt (2005), there exist a group of people at the rural areas who are disenfranchised as they lack skills and infrastructure to access online services offered by the government. At one time, local administrators resisted the use of integrated financial systems to perform business tendering with government citing difficulties in accessing internet connectivity.

In light of these challenges, it is recommended that:

- The government needs to roll out more e-government initiatives that will increase digital inclusivity and encourage more people to interact with the government through online services. Such programs should target the citizens at the local level. Digital inclusivity should empower the physically challenged, women, youth, illiterate citizens, people in the lower income level and the old to participate in online activities offered by the government.

- The government should make the policies to be more supportive and also enhance stakeholders' participation. Policies should promote collaboration and communication between government ministries, departments and agencies. This will discourage departments from working in isolation.

- The government should look into ways of reducing the cost of ICT equipment through measures such as duty waiver or outsourcing equipment and elicit for services from private proprietors. Also, improving internet connectivity down at the local levels and enhancing rural electrification program will enable citizens living in the rural areas to enjoy online services from the government.

- The government should look into ways of enhancing the skills of staff on a continuous basis due to the rapid technological changes in the ICT environment. The government should come up with more ICT literacy programs to educate the public on the services available online in order to improve on its usage.

- Online services should be improved by adding more user friendly features. E-government initiatives should take advantage of new technologies in social media, cloud computing and mobile phone technological advancements to disseminate online services.

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