Trust and its challenges facing E-Government programs in Kenya

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***Abstract*-Kenya's public sector is at a crossroads today in facing the challenges of institutional change and the impact of new technologies. The public sector can, and will play a much stronger role in implementing all the government plans. The emerging ICT technology can create solid improvement in offering better services to all nations. This can enable the citizens of the countries to access e-services from the governments based on their trust to the systems. In Kenya things have not been as planned as majority of the people don't trust e-government services. There are many challenges facing its implementation which now remains as a dream, despite the government efforts. The paper raises a lot of concern especially on the trust of the citizens to e-government services being offered and the ICT awareness of the citizens too. The work highlights what the government has done to address the issue. The proposed solutions will help as e-government, and ICT investment has consumed a huge part of the national budget in recent years. The paper addresses how trust influences the change of attitude towards government by employees and the citizens.**

Keywords: Trust; E-government; e-commerce, e-service; ICT; e-governance

I. INTRODUCTION

All relationships are based on trust, whether private relationships with friends, and family, business relationships with stakeholders, and also Government with the citizens who are its customers. E-government refers to the delivery of government information, and services online via the Internet or other digital means [1]. Trust is central to interpersonal, and commercial relationships [2], because it is crucial wherever risk, uncertainty, or interdependence exist [3]. Morgan et al [4], define trust as the perception of confidence in the exchange of partner's reliability, and integrity. The most complete definition so far is given by Hosmer in [5], who defines trust as the expectation that the other parties will behave in accordance with commitments, negotiate honestly, and not take advantage, even when opportunity arises According to [6], trust in government is an evaluation of "whether or not political authorities, and institutions are performing in accordance with normative expectations held by the public." E-governance is the process of using information technology for automating both the internal operations of the government and its external interactions [7]. The three target groups that can be distinguished in e-governance concepts are government, citizens and business interest or groups. E-government is seen as the use of a range of information technologies (ITs), such as wide area networks, and mobile computing by government agencies for efficiency, service delivery, and to promote democracy. In summary e-government is the relatively new mode of citizen to government contact founded in information, and communications technologies (ICT), and citizen trust in government. E-Government success, which is critically dependent on the World Wide Web, requires socially inclusive national information infrastructure. The remainder of this paper is structured as follows. Section 2 discusses the social economic context and Kenya's position in the world. Section 3 briefly presents e-government challenges and expectations, Section 4. Section 5 presents the Growth of ICT practices in acceleration of e-government. Section 6 finally presents the conclusions of the paper.

II. SOCIAL ECONOMIC CONTEXT

Kenya is a country located on the eastern part of Africa. It's a former colony of the Great Britain having attained independence in the year 1963. The Kenyan government economy has always relied on agriculture as the main economic activity taking a third of its GDP. Kenya is a major economic, financial, communication, and transportation center in eastern Africa. It's a member of the east African community, and Commonwealth of Nations, as well as the Inter-Governmental Authority on Development (IGAD), and other world bodies. It forms a link to some of the African countries especially those on the eastern, and central parts. Tourism is another key boost to the economy as well as manufacturing, and processing of agricultural products [8]. The 2008 World Bank figures indicate between 2005 to 2007 the economy grew from 5.5% to 6.5 after years of economic decline in the 1980's and 1990's [9]. The decline was attributed to the unfavorable, and inappropriate policies, inadequate credit, poor international in terms of trade, and unfavorable political conditions. The current population of the country is estimated at 40 million with an annual population growth of 2.5 % [10]. The slow growth of population has been attributed to the impact of diseases especially malaria, AIDs among others. The projected growth according to the Kenya Bureau of Statistics data is as shown in figure 1.

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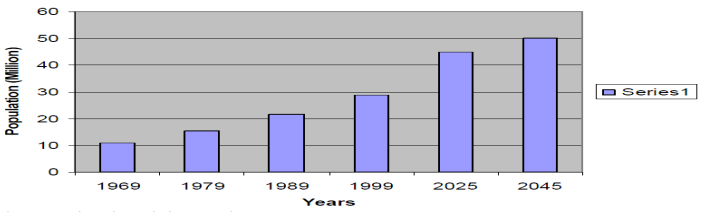

Figure1: Projected population growth

UNESCO reports also indicate that of the total population, 60% are youth under the age of 30 years. The world Health Organization (WHO) and the United Nations development program (UNDP) Human Development Reports estimated the life expectancy at birth to be about 50% to 52% in 2005.

E-Government Trust, Challenges and expectations

E-government means different things to different people. E-government generally involves using ICTs to transform both back-end, and front-end government processes and provision of services, information, and knowledge to all government customers [11]. E-government can thus be segmented into primary delivery models i.e. the relationship between government and citizens (G2C), electronic interactions between government agencies, and private businesses (G2B), relationship between governmental organizations (G2G), and the relationship between government, and its employees (G2E) [12]. E-government holds promise for improved delivery of many types of public services. In Kenya lack of trust by the citizens raises a lot of concerns, attributed to the following: 1) Information is never accessible as directed by the government information centre. 2) E-government failure to respond to issues requested by its citizens. 3) No flexible communication. 4) Failure by the government to update its official websites. 5) Public perception there is no trust, and security to ones email. 6) Government still using manual methods like photocopies; 7) Failure by the government to honor deals on the Internet; 8) ICT services only available in major cities; 9) Corruption in procurement of ICT equipments.

III. ICT INFRASTRUCTURE DRIVE TO TRUST IN E-GOVERNMENT

Despite its early lead in the past decade, Kenya's ICT sector is on a trend to lag behind its East African neighbors, Tanzania and Uganda. A key reason for this has been an outmoded regulatory regime, and a lack of focus, and coordination in addressing ICT challenges, and opportunities [13]. In remote rural counties which are the main administrative units, for example, only one in a thousand households has a telephone line, and in 2002 bandwidth for the entire country was 20.5 Mbps uploads and 56.5 Mbps downloads. Kenya established the e-Government Program in June 2004, Since then it has committed itself towards achieving an effective, and operational e-Government to facilitate better, and efficient delivery of information, and services to the citizens, promote productivity among public servants, encourage participation of citizens in Government and empower all [11]. The table below clearly shows the usage and availability of ICT resources in Kenya in a period of five years.

Key Indicators	2004	2005	2006	2007	2008
Mobile Phone Subscribers	3.4 M	5.5M	7.2M	8.7M	11.5M
Mobile Phone Users	8.5M	10M	12M	14M	16M
No. of PCs	0.75M	0.9M	1.1M	1.4M	1.7M
Internet Users	1M	1.4M	1.8M	2.5M	3.5M

Table 1: Kenya-Industry Statistics (Adapted from:[14])

This demands for quick action in which the government has to quickly implement the ICT policy. The majority of what is presented in the table above is in the urban areas. 80% of Kenyans live in rural areas, and informal settlements that today have extremely limited access to ICTs or none at all. According to [15], analyst at Pyramid Research the total revenue of Kenya's telecom market was forecast to grow by 42 percent from $1.39 billion in 2008 to $1.98 billion by 2013, with 78% of the total revenue to be generated by the mobile sector. "Mobile data is expected to be the telecom sector's fastest-growing revenue stream, increasing in revenue from $62 million in 2008 to $224 million in 2013, partly due to the launch of 3G services An analysis of the geographical dispersion of the internet, as a cluster of various technologies reveals the following as per the year 2007.

Licensee Category	Districts	Provinces	Percentage of districts
ISP (Internet Service Providers)	20	8	28.57
LLO (Local Loop Operators)	2	2	2.86
PDNO (Public Data Network Operator)	33	7	47.14
VSAT	57	8	81.43

Table 2: presence of the internet in provinces and districts (Source: CCK, 2007)

Majority of the people have no access to the Internet, which means they don't have any contact with the e-government services. The government should develop incentives to this group, through subsidized training programs, and low cost sales of ICT products such as computers, Internet access etc. Continuous audit of e-government services so that the government can know its impact to the citizens. All the service development for e-government should be customer focused. The government should provide high level services to its customers i.e. One-stop shops, advice bureau. Currently whole-of-government telephone call centers and services such as information kiosks have attempted to bring together information and services from different government agencies. The capacity to offer integrated, seamless government services so that users can interact with government as a single organization, however, relies not only on ICT tools, but also on deeper organizational, and cultural changes within public administrations. From the customer's point of view, government should appear as one organization; from government agencies' point of view, the customer should appear as a single customer [11].

IV. GOVERNMENT PLANS AND TRUST STRATEGIES

The government has all its obligations to invest in adequate ICT education, training, and implement a well targeted tax reduction and/or tax incentives on both computer software, and hardware, and review the legal framework to encourage adoption, and use of e-commerce. It's only in year 2003 that the government developed the first Government Master plan for e-government. However, despite its impressive beginnings, some of the limitations of the Kenyan e-government strategy to date, according to [16] are as follows: 1) Electronic publishing of key information. 2) E-government needs to be publicized. 3) An e-government champion is missing in action. 4) A clear demonstration of political will to mobilize resources for e-government is lacking. 5) The implementation is basically top-down and taking a phased approach, starting at central government level down to provincial level and finally to district level. 6) The strategy is biased towards supporting the Government to government components more than the Government to consumer's components; 7) Only the Internet as a communication channel is clearly identified. Others like short messaging system (SMS) are not. 8) The e-government strategy has numerous disjointed parts, and is likely to experience challenges in its implementation.

V. GROWTH OF ICT PRACTICES IN ACCELERATION OF E-GOVERNMENT

Despite the government initiatives for e-government which has been a bit slow, the country has been able to develop through some initiatives by both the public sector and the private sector. The new emerging technologies (e.g. mobile phones) have created new momentum for strengthening citizen agency at larger scale; *Broadband Internet access*-Internet access remains largely expensive with pricing dropping only marginally [17]. *Approval of the Controversial ICT Bill* **-**The ICT Bill made provisions for trust in e-commerce and digital signatures which are key for enabling online business in Kenya; *Mobile Money Goes Mainstream*-The sector in Kenya which has shown good progress is the mobile money transfers in which various mobile companies have taken the lead. Safaricom's M-pesa service has dominated the market since its inception. This has been followed by Zain through its ZAP mobile money service and then the YU which launched its yuCash mobile money in the year 2009 based on its Obopay service; *Mobile Internet Gains*-From the year 2009 there has been a shift from Kenyans using cybercafés, and fixed line internet for mobile internet access. This trend was driven by Safaricom's introduction of its 3G offering for internet access; *Kenya Government promotion of ICT in 2010/11 Budget*-The year 2010/2011 government budget removed tax from digital equipments. Mobile phones were exempted from value added tax (VAT). Kshs 1.3 Billion was allocated to the establishment of mobile computer labs country-wide. ISPs we're allowed to offset taxable income against the cost of purchasing internet bandwidth. Wear and tear on telecommunications infrastructure was increased from 12.5% to 20%. Tax was also reduced on purchasing certain types on computer software. *Local Content in digital form***-**This is a key issue, although Kenya has over 18 million mobile users and 4 million Internet users, the bulk of digital content they access is international and not local. *Digital TV Starts Broadcasting* - One of the last major milestones for ICT in Kenya for 2009 was the launch of Digital TV (DTV). DTV will revolutionize television broadcasting as we know it in the coming years since its highly efficient and interactive. The government has given its citizens up to the year 2012 to convert their domestic items to use digital.

VI. PROPOSED SOLUTIONS FOR THE REMEDIES

It has been noted that good practices in many countries have demonstrated that trust in e-government is a powerful means indeed of delivering better quality public services, reduced waiting times and improved cost-effectiveness, heightened productivity, and improved transparency and accountability[18]. To show trust from the government to its citizens, the e-government was relocated to have its operations from the office of the president as a directorate to streamline its operations. Also spoken about are the government's own automation initiatives including the Integrated Financial Management System (IFMS) among ministry departments and the digitization/backfiling of public records through enterprise content management systems (ECMs). For e-government to succeed employees should be able to have trust to the leadership and vice versa[19]. One airline company who has a market capitalization of 300% more than any of the other major US airlines combined, even go so far as saying that you should forget about customer service and focus on employees. Great Place to Work Institute (GPTW), who have conducted 20 years of research, a high-trust workplace is high performing because employees are more than just engaged they are passionate about their work and feel inspired to further their organization's goals. According to the United Nations Centre for Regional Development (UNCRD) research for successful implementation of e-government initiatives. It includes technical skills as well as an understanding of the information society, information management, potentials and impacts of ICTs, effects of digital divide, and ICT literacy[20]. There are three basic modes by which trust takes place in an economic environment. These include institution-based trust, characteristic–based trust, and process trust. [23]Analyses the Japanese e-government scheme into five fields(a) industries/technological support; (b)infrastructure development (c)provision of information to citizens; (d)increase in efficiency of administrative proceedings; and (e)provision of essential government services[19].

Training of government employees in ICT and e-government Trust-The Kenya government to make e-government a reality

started an ambitious program to train its employees on the ICT technology in the year 2009. This is by government partnership, with some Non Governmental Organizations (NGO) like Computer for Schools Kenya (CFSK). They mainly focused on the use of computers, and access to the internet. To disappointment of many, Kenya having many employees spread throughout the country the exercise was conducted only in the capital city Nairobi. The department which was targeted was the provincial administration in which staff were trained from the senior officer to the middle level officers i.e. chiefs. The training showed clearly the government never allocated enough money to the ICT, and e-government because it still relied on the NGO to train the employees. During the training of provincial administrators the NGO gave the departments in attendance Pentium four computers with an Internet access modem. To improve the status for civil servants the government intends to introduce public servants training revolving fund to be managed by the existing Higher Education Loans Board to help them improve their skills and enhance performance [11].

Legislation as a Key to Trust in e-government operations in Kenya-Kenya government has taken the slogan of "Modernizing Public Service towards realization of Kenya Vision 2030'' to achieve its set goals. This has necessitated the commitment of a huge investment in e-government to enable the linking of the communication between the government departments. The government should support the protection with the passing of appropriate legislation, such as the Law on Electronic Commerce, and Electronic Signatures. Public key infrastructure (PKI) has become a necessity for implementation of security. E-government to be trusted by the citizens "Mwananchi as referred in Kenya" implementing or supporting a number of information systems that are important for the entire nation include among others; ID card, Driver's licenses, Registration of vehicles, Passports, Visas and residence permits, Standard police reports, Criminal records, and records of criminal acts perpetrators, Records of companies' registers, Citizenships records, Database of Nationality-Citizenship, Database of personal weapons of citizens and official persons, Voting , Submit tax returns online, and Government e-registry. For instance it has been claimed that many people from Somali which is unstable have been crossing the border and acquiring Kenyan IDs as well as passports which poses a threat to the entire world. Lack of sound e-government services was witnessed on the disputed elections of December 2007, where results were manipulated because the voting was by manual methods[12]. *Monitoring and evaluation*-The Kenya government to overcome challenges in e-government should put in place an effective monitoring of what is on the public domain to its citizens and evaluate the progress; *E-government can help build trust between governments and citizens*- ICT can help build trust by enabling citizen engagement in the policy process, promoting open and accountable government and helping to prevent corruption.

VII. CONCLUSION

E-government is indeed the way to go based on trust in the renewed spirit of a reforming, and customer-focused public service, one that listens and responds to the concerns of the public. For any remarkable achievement to be attained the government has to prioritize the pursuit of both technological, and infrastructural modernization program. Implementation of Findings suggest that although e-government may help improve citizens' confidence in the future performance of the government, it does not yet lead to greater satisfaction interaction nor does it correlate with greater generalized trust. Explanations for these findings, including an assessment of the potential of e-government to help rebuild trust in government in the future should be investigated.

REFERENCES

[1]West, D.M. 2000. Assessing e-government: The Internet, democracy, and service delivery by state and federal governments. Washington, D.C.: World Bank. Available [online]: www.worldbank.org/publicsector/EgovReport US00.htm ,21 June 2002.

[2]Golembiewski, R.T., and McConkie, M. The centrality of interpersonal trust in group processes. In G.L. Cooper (ed.), *Theories of Group Processes*. London: John Wiley, 1975, pp. 131–185.

[3] Mayer, R.C.; Davis, J.H.; and Schoorman, F.D. An integrative model of organizational trust. *Academy of Management Review*, *20,* 3 (1995), 709–734.

[4]R. M. Morgan and S. D. Hunt, "The commitment and trust theory in relationship marketing", Journal of Marketing 58, pp. 20–38, 1994.

[5]Hosmer, L. T.(1995). Trust: The connecting link between organizational theory and philosophical ethics. A M, Journal, 20, 379-403.

[6]Levi, M. and L.Stoker. 2000. Political trust and trustworthiness. Annual Review of Political Science 3: 475-507.

[7]Kenya Poised for Huge Growth in Mobile Services, http://www.cellular-news.com/story/36535.php?s=h

[8]CIA World Fact Book - Kenya. 2010. Retrieved November,10th,2010, from https://www.cia.gov/library/publications/the-world-factbook/geos/ke.html

[9]Kenya - Data and Statistics., 2008. World Bank. Retrieved January 24th, 2010, from http://web.worldbank.org/ PK:356509,00.html

[10]Government of Kenya, (March, 2004). E-government strategy: The strategic framework, administrative structure, training Requirements and standardisation framework. Nairobi: Government Printer.

[11] E-government in Kenya,http://www.e-government.go.ke/

[12]Hussein Al-Omari and Ahmed Al-Omari ,Building an e-Government e-Trust Infrastructure,2006

[13]Kenya National ICT Policy Development 2003, Ministry of planning and development, GOK

[14]Håndværksrådet,(2006), "Business Opportunities within the IT and Telecommunication Industry: Kenya," http://www.um.dk.pdf

[15]Kenya Poised for Huge Growth in Mobile Services, http://www.cellular-news.com/story/36535.php?s=h

[16]J M Wafula & N Wanjohi ,ICT Policy and ICT Initiatives: What Linkages?2004

[17]A Review of Kenya's ICT Position in 2009, http://www.moseskemibaro.com/?p=806.

[18]Gartner Group, 2002. Gartner Group Report to The Jordanian Ministry of Information & Communication Technology (MoICT).

[19]Frank Buytendijk, An Oracle Business Intelligence and Performance Management Publication Issue 6, July 2009

[20]32nd International Training Course in Regional Development, UNCRD, Nagoya, Japan.