LEVEL OF E-GOVERNANCE READINESS IN KENYA: A CASE OF LAIKIPIA COUNTY

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ABSTRACT

E-governance is becoming an important factor in the development process and service delivery in public and private institutions. However, the Kenya devolved units of governments must demonstrate ICT readiness for e-governance to be successful in their endeavor to achieve this objective. This study sought to determine the level of e-government readiness in Laikipia County. To realize this objective, the study surveyed a sample of the offices in the Laikipia sub-counties i.e. Laikipia West, Laikipia East and Laikipia North offices to describe the state of e-government readiness in public offices, state of infrastructure, policies implementation and social factors. This was achieved through data collection by use of interviews and questionnaires from the Laikipia County staff. A sample size of 32 respondents was identified through stratified sampling. Through the above two techniques (questionnaire and interviews) primary data was collected and analysed. Descriptive statistics were used to analyse data and the results were presented in tables. The study established that although the various e-government initiatives present at work place in Laikipia County fulfill the purposes that they are intended for, some of the most important elements of ICT infrastructure are not in place. The study established that the network in the area of work is not reliable and does not provide a substantial up-time. In addition, Laikipia County government has not provided adequate hardware components for the required e-government tasks. This study also established that reliable hardware components to carry out computer tasks are not provided and all the required or necessary software components for use in e-government are not in place. The software that exists is not regularly updated to cater for the e-government emerging requirements and there exist no contingency plan for data backup and recovery in case of any loss. The study established that in general there is inadequate infrastructure to support e-government initiatives in Laikipia County. This study concluded that the level of e-government readiness in Laikipia County is low given the deficits in ICT infrastructure, lack of e-government policy and lack of security of information in e-government

systems. The national government should assist Laikipia County government improve their readiness to e-government adoption.

Keywords: county, devolved, e-governance, e-government, policy, readiness, ICT, service delivery, UN,.

INTRODUCTION

Background

Countries around the world are implementing e-governments with the objective of enhancing free flow of information, citizens' participation in the public policy processes, promoting productivity among the civil servants, and improving the delivery of public services (UN, 2014). Governments have paid more attention to e-government in the last two decades, with central focus on its readiness. While a UN report (2014) indicated that e-government has been adopted by all the 193 UN global member states examined for online service provision, majority remains at the low or intermediate levels of e-government development, termed as emerging and enhanced stages in the United Nations four stage online service model (UN, 2014).

Kenya is among governments in Sub Saharan Africa also implementing e-government to enhance service delivery. The Kenyan Government has underscored universal access to ICTs as a major objective of Vision 2030, which is Kenya's economic blueprint that is aimed at propelling her to a middle-income country by the year 2030 (Kenya vision 2030, 2010). E-government is more than just a government website on the Internet. Solutions to development issues often require changes to government processes such as by decentralization. Objectives are generally to improve efficiency and effectiveness and to save costs. The driving force can also be public demand for online services and information that increase democratic participation, accountability, transparency, the quality and speed of services. The implementation and use of ICT solutions can support governance reforms (Backus, 2001). A study conducted by UNESCO (2004) shows that ICTs can help reinvent government by injecting innovative ideas in the government institutions and structures to enhance provision of goods and services with greater efficiency, effectiveness, and lower costs. According to Njuru (2011), e-government is increasingly becoming a fundamental tool for enhancing public administration and service delivery to the citizenry.

Statement of the Problem

In Kenya, just like in other developing nations, technological challenges have been identified as majorly influencing the successful implementation, readiness and use of e-government. Kenya is currently ranked as 119 in number globally and has retained same ranking since 2012. In African countries ranking, it declined from number 7 (UN, 2012) to number 9 (UN, 2014). According to this survey, Kenya was ranked second in the East African Community after Rwanda in terms of their e-government Development Index (UN, 2014). According to Ochieng and Gichoya (2013), county government plays a significant role in the social, political and economic development of Kenya though they face a number of vital challenges which impede their abilities to effectively and efficiently deliver public services. In their effort to offer public services, most of these counties rely on manual file-based information systems which hardly cope with the dynamics of modern day public service delivery.The adoption of ICTs will definitely eliminate most of these challenges. The e-government strategy (2004-2007) does not expressly state the place of defunct local authorities in the entire e-government strategy. County governments inherited the non ICT-enabled information from defunct local authorities and municipal councils which fell short of supporting public service delivery. Technology in service delivery is crucial and ICT can transform county governments by promoting good governance through increased capacity to deliver. It is against this background that it was imperative to determine the level of e-government readiness in Laikipia County.

Objective of the Study

The objective of the study was to determine the level of e-government readiness in Laikipia County.

Research Question

1 . What is the level of e-government readiness in Laikipia County?

LITERATURE REVIEW

E-government readiness is one of the significant factors which informs implementation of ICT in governance systems. ICT plays a critical role for the adoption of e-governance. Consequently, ICT is found to enhance and speed up the adoption of e-government, in the sense of utilizing technology to save time and effort through collaborating, cooperating with government agencies

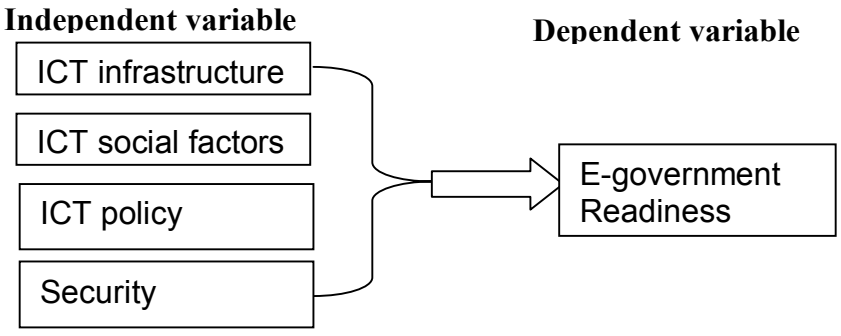
because the ICT lies behind the success of e-government adoption. In addition, ICT infrastructure should be the main concern for e-government (United Nations, 2012). Based on a study by IBM (2001), it can be argued that the ICT infrastructure for an e-government involves technologies - network readiness - including application servers, hardware resources, software, operating systems, Internet, websites and data (Macasio, 2009).

ICT infrastructure holds up the performance, data transformation, and storage which are necessary in the e-government services. Hence, ICT infrastructure should be prepared before e-government services can be available consistently and effectively (IBM, 2001; Ebrahim & Irani, 2005). For example, the computer network covering a particular area, as a component of ICT infrastructure, is extremely important to support attaining e-government adoption, in the sense of making interconnecting varieties of devices available and providing information exchange among devices (Kurose & Ross, 2013).

According to Njuru (2011), the Kenyan government has failed in disseminating information about e-government, sensitizing Kenyans on how to make use of technology to access government services, and providing incentives to encourage use of technology. Despite the advantages touted globally for implementing e-government, literature shows no evidence that any of the Kenyan e-government's objectives: enhancing delivery of public services, improving information flow to citizens, promoting productivity among public servants, and encouraging citizens' participation has been achieved.

Conceptual Framework

In this study, independent variables include; ICT infrastructure, social factors, policy and security. These are presumed to affect e-government readiness. The relationship of the variables is presented in the figure below.



RESEARCH METHODS

Research Methods and Design

The study used a descriptive survey research design. This design is appropriate for a study concerned with determining the level of e-government readiness in a devolved government. In descriptive study, information is collected without changing the environment of the phenomenon under investigation hence fitting the study. Descriptive studies are usually the best methods for collecting information that demonstrate relationships and describe the world as it is. Silverman (2011) pointed out that descriptive studies can answer questions such as "what is" or "what was" as well as "why" or "how" questions. According to Sekaran and Bougie (2010), descriptive survey is a method that studies large population (universe) by selecting and studying the samples from the population to discover relationships.

Population and Sample

The target population comprised of (104) staffs of the County Government of Laikipia. The sample size for the study was 32 respondents a 30% representation of the target population. According to Mugenda and Mugenda (2008), a sample of 30% of the population is representative enough. This study therefore opted to select 30% of the target population.

Data Collection, Processing and Analysis

The instruments for primary data collection were questionnaires which were administered by the researcher with help from local field enumerators to enable coverage of the sampled respondents. The questionnaires were simply structured for ease of administration and also to obtain the necessary information for the study with ease. The researcher sought authority from the relevant regulatory in order to be in tandem with ethical considerations of research. A total of 32 questionnaires were distributed to the sampled group to partake in the study. Follow-up was made by the researcher to monitor the progress of response. All questionnaires were collected after three weeks' time. The collected data was analyzed using descriptive and inferential statistics. Descriptive statistics which included frequencies and percentages were used to describe data while multiple linear regression analysis was used to make inferences from the data. The following multiple regression analysis model was used to analyze data;

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$

Where Y is understanding of e-government (E-government readiness)

X_1= infrastructure

X_2= policy

X_3= security

X_4= social factors

ε = error term

β_0 is the constant or intercept while β_1, β_2, β_3 and $\beta 4$ are the corresponding coefficients for the respective independent variables while ε is the error term. Data analysis results were presented in tables.

RESULTS AND DISCUSSION

Results

The results are presented in model summary table.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.790[a]	.624	.601	.31690

a. Predictors: (Constant), Infrastructure, policy, security, social factors

The results show that predictor variables infrastructure, policy, security and social factors explain 62.4% of variation in Y (e-government readiness) as the value of r^2 is 0.624. Change in e-government readiness that were explained by independent variables in this study were 62.4% and therefore 38.6% of change could be attributed to other factors not in the scope of this study.

Analysis of variance was done to examine the fitness of the regression model used. The results are presented in ANOVA table.

ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.

	Regression	10.674	4	2.668	26.572	.000[b]
1	Residual	6.427	64	.100		
	Total	17.101	68			

a. Dependent Variable: E-government readiness

b. Predictors: (Constant), Infrastructure, Policy, Security, Social factors

Results of analysis of variance show that F-ratio (F=26.572) was statistically significant. Therefore the model used was fit and the relationship of variables established could not have occurred by chance.

Coefficient of determination was used to establish the contribution of each independent variable to the change in the dependent variable (e-government readiness). The results are presented in the coefficient of determination table.

Coefficient of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.703	.703		3.843	.000
	Policy	.180	.132	.106	1.366	.177
1	Security	.116	.058	.221	2.004	.049
	Social factors	-.251	.070	-.414	-3.565	.001
	Infrastructure	.385	.126	.275	3.064	.003

a. Dependent Variable: E-government readiness

The results show that security (β= .116, *p=0.049*) positively and significantly influences e-government readiness. This means that the higher the security the higher the level of e-government readiness. The results show that social factors (β= -.251, *p=0.001*) negatively and significantly influences e-government readiness. These results show that social factors in place in Laikipia County could be hindering e-government readiness. The results also revealed that infrastructure (β= .385, *p=0.003*) positively and significantly affected e-government readiness.

The results show that the better the ICT infrastructure in Laikipia County, the higher the level of e-government readiness in Laikipia County. Although policy positively affected e-government readiness, it was not statistically significant (β= .180, *p=0.177*).
The regression equation will be;

$$Y= 2.703 + 0.180\ X_1 + 0.116\ X_2 + 0.385\ X_3 - 0.251\ X_4$$

The regression equation above shows that taking all factors into account (policy, security, social factors and infrastructure) constant at zero the readiness of e-government will be 2.703. At the same time policy does not influence significantly the readiness of e-government in Laikipia County while security positively and significantly influence the readiness of e-government. However, social factors have a negative effect on readiness of e-government in Laikipia County. It is also evident that infrastructure positively and significantly influence readiness of e-government in Laikipia County.

Discussion

The study established that although the various e-government initiatives present at work place in Laikipia County fulfill the purposes that they are intended for, some of the most important elements of ICT infrastructure are not in place. The study established that the network in the area of work is not reliable and does not provide a substantial up-time. In addition, Laikipia County government has not provided adequate hardware components for the required e-government tasks. This study also established that reliable hardware components to carry out computer tasks are not provided and all the required or necessary software components for use in e-government are not in place. The software that exists is not regularly updated to cater for the e-government emerging requirements and there exist no contingency plan for data backup and recovery in case of any loss. The study established that in general there is inadequate infrastructure to support e-government initiatives in Laikipia County.

The study revealed that Laikipia County government has not developed a clear legal basis for implementing a fully functional e-government. Besides, the government has not set aside adequate finances to cater for e-government requirements. The study established that there is no standard that govern acquisition of ICT equipment and their accessories as well as an established

policy observed in handling equipment in the government. The study found out that there are no policy procedures for handling electronic evidence in government. In general, this study revealed that there is no clear ICT policy followed in handling disposal of hardware and accessories.

This study established that although the government to some extent has put in place mechanisms to ensure e-government services privacy, there is no policy for securing e-government systems by employees. The study established that there is no code of conduct governing management of information. Besides, the government has no standard for managing storage of data. The study found out that there is no established procedure of archiving information assets in Laikipia County. The government has neither put in place technical means to assure users of their personal data privacy and consequently is protect it to ensure it is not misused nor put in place policies, protocols and data management mechanisms needed to balance individual privacy protection with effective and efficient use of that information by government.

This study established that the government has initiatives to encourage and motivate use of e-government services for both ICT experts and the users to embrace these e-government initiatives. The study also found out that there has been change of working methodology as a result of application of e-government but internal factors faced by users influence their attitudes towards e-government. This study established that the county government has not given adequate training on e-government benefits and importance to Kenyans. In addition, there are no well-established frameworks and mechanisms for appropriately monitoring and evaluating the cost benefits of e-government investments. The government has not ensured adequate availability of e-government services and external factors faced by users do not adequately influence their attitudes towards e-government positively.

CONCLUSIONS AND RECOMMENDATIONS

This study concluded that the level of e-government readiness in Laikipia County is low given the deficits in ICT infrastructure, lack of e-government policy and lack of security of information in e-government systems. The study also concluded that lack of an ICT framework for implementation of e-government means that the citizenry are not enjoying efficient and effective service delivery they ought to get from the county government. The study recommends that the national government should assist Laikipia County government improve their readiness to e-

government readiness. Laikipia County government should ensure that an ICT framework is put in place for e-government readiness. Laikipia County government should ensure that the ICT framework developed addresses barriers of e-government readiness identified in ICT infrastructure, e-government policy, and security of information in e-government systems and social factors.

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