

# Financial Capacity and Adoption of E-government for Improved Service Delivery in Kajiado County, Kenya

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## Abstract

Many governments, globally, have in the last two decades started adopting E-government to improve efficiency and effectiveness in service delivery. However, the implementation of E-government is capital intensive and hence requires adequate financial resources. The purpose of this study was to establish the influence of financial capacity on the adoption of E-government in Kajiado County in Kenya. The study was based on pragmatic paradigm. Descriptive survey was used in this study. A sample of 335 respondents was drawn from the target population of 2660 employees from the devolved 10 ministries in Kajiado County using Cochran (2007) formulae. Quantitative data was collected through open and closed-ended questionnaires while qualitative data was collected through an interview guide. Regression models and correlation were used to analyze inferential data and test hypotheses. Qualitative data was analyzed using content analysis. The study found that Financial capacity had a strong positive influence on adoption of E-government ( $r= 0.595$ ,  $p\text{-value}=0.000$ ). The study concludes that financial capacity has a significant influence on the adoption of E-government in the County Government of Kajiado. The availability of financial resources helps to enhance or build organizational IT infrastructure, which is one of the strongest predictors of innovation. Therefore, the study recommends that the County government of Kajiado should increase its budget allocation to facilitate the implementation of E-government.

**Keywords:** Financial Capacity, adoption of Technology, E-government, internet.

## Introduction

E-government is a complex and expensive project that require availability of financial resources to support high cost technology systems, hardware, software's, maintenance as well as Education and training. Al-Sebie and Irani (2010) noted that organizations require adequate economic resources such as sustainable funding as well as non-economic resources such as strategies, leadership support and project management skills to facilitate and promote the implementation and adoption of a successful E-government infrastructure. Lack of financial support is considered as one of significant obstacle to implementation and adoption of E-government in many developing countries. Investing in technological innovation in private sector is driven by competition to achieve competitive edge. However, in the public sector the fundamental mandate is not business driven, and often, conflicting goals such as providing better services in education, health, environmental and many others compete for the same budget. Due to budget constrains most E-government are funded from NGO whose funding is facilitated for a period causing problems of project sustainability. E-government implementations and adoption takes time, without reliable funding the projects are likely to stall leading to failure. Lack of reliable separate allocated annual budget for ICT innovation can hinder implementation and adoption of E-government systems. Therefore, there is a need to investigate financial implications in adopting of E-government in the county government.

Digital transformation is a paradigm shift throughout the world caused by rapid growth of ICT and many governments just like the private sector have realized the importance of E-government as a tool for responsive governance. Implemented and adopted ICT has potential to transform delivery of services in public institutions. Benefits of E-government adoption are undisputed. It's evident that E-government is an effective driver for economic growth and saves time as well as bringing accountability, effectiveness, and openness in government,

but there are many challenges that hinder the exploration and realization of its opportunities such as financial capacity (Ndou, 2004; Jeyaraj, Rottman & Lacity, 2006). Research on E-government has identified challenges such as funding that hinder the adoption of E-government in many countries.

There is a high rate of failure of E-government projects, particularly in developing countries, despite the advantages and benefits that E-government technology provides. A report on E-government implementation projects in developing countries indicated that 35% failed, 50% partly failed, and only 15% were successful (Heeks, 2003). Raguseo and Ferro (2011) noted that public administration is lagging behind the private sector in the usage of ICTs for conducting their back-office activities. Most of them have not fully incorporated ICT in automating their activities. According to Raguseo and Ferro (2011), operational features, new managerial skills, new abilities of defining adequate policies, new capabilities of planning activities to conduct, new aptitudes to increase the citizens' involvement in public activities as well as the availability of new ICTs, combined with the organizational changes and the new competences creation is necessary for public administration to overcome organizational internal barriers in order to realize the value of E-government adoption

Nograšek (2011) noted that although there is awareness that E-government is more than using ICT and putting public services on the web, the impressive growth of E-government exists in the making of information and services available to people. According to Lau (2003, November), budget time horizons, can pose a problem or E-government, most of these projects are multi-year in nature, and thus require commitments to spend resources over a long period, which sometimes is beyond the annual or multi-year budgeting horizon. Such projects represent a commitment to spend future revenues, and governments are understandably reluctant to tie up future spending. Government may not commit to have such spending unless on short term projects. The difficulty of measuring costs and potential benefits for E-government projects makes it hard to develop funding cases for projects and compare alternatives in a budget-setting context. As many countries commit to IT investment, research on change management suggests that potential benefits of IT systems within organization remain unrealized (Hiatt, 2006). While Neufeld et al. (2007), noted that most IT projects, do not get close to achieving anticipated results. According to Aiman-Smith and Green (2002), the cost of projects in most cases exceeds initial budget due to time overruns leading to project failures.

Wood-Harper et al. (2004) declared that studying factors that lead to successful E-government implementation and adoption is crucial. There a need to identify key success conditions, indicators and factors in order to develop an understanding on why and how E-government initiatives should be successfully implemented and adopted. This study therefore sought to examine the effect of financial capacity on adoption of E-government.

The study was guided by the following research hypothesis:

**H<sub>1</sub>** Financial capacity does not have a significant influence on the adoption of E-government in the county government of Kajiado.

## **Related Work**

### **Adoption of E-government for improved service delivery**

E-government or digital government refers to the use of ICT, IT and other web-based technologies to improve efficiency and effectiveness of service delivery in the public sector. It's the use of internet and other technological devices by governments to deliver services to the public (Young-Jin and SeangTae, 2007, Bhatnagar, 2004). Digital government or E-government entails computerizing the back and front office using ICT tools as well as modifying organization internal operation processes of the public sector (Liikanen, 2003). It also involves office automation through online services and transactions to improve government services (Huang, 2010). The government is able to become more responsive, transparent and accountable to the public through open government data initiatives as well as reduce bureaucracy. Government is able to increase its efficiency and offer better quality services. Successful implementation and adoption of E-government benefits all stakeholders such as employees, citizens, NGO, communities as well as businesses.

Adoption of technology has two aspects, adoption at organization level and adoption at individual level (Fichman, 1992). Organization adoption deals with analyzing adoption decisions by large aggregates such as companies, business units, agencies or departments, whereas individual adoption deals with an individual behavioral intention to adopt an innovation or actual adoption behavior (Fichman, 1992). According to Hall and

Khan (2003), contributions of new technology innovations in organizational performance can be realized if and when the new technology is widely accepted and adopted. The understanding of organization and individual decisions to adopt technology is essential for technological change management. To successfully implement and adopt E-government for service delivery, the government must have a vision and the system must be accepted and adopted by the intended users (Graafland-Essers & Etedgui, 2003). Kyobe (2011) found that capacity to “adopt and use ICT” and “exposure” are remarkable determinants of adoption of ICT in South Africa. ICT adoption in the developing nations is influenced by income, availability of computer and internet skills. E-government adoption brings fundamental change in the public-sector structure, its culture and values and ways of conduction business. The radical change is surrounded by human, cultural, organizational, political and technological issues that must be dealt with for successful adoption. It brings about transformation changes to process, structure, culture and individual behavior in the public sector (Abdullah, Rogerson, Fairweather, & Prior, 2006).

E-government adoption has no universal model applicable to all countries and regions. According to Moon (2002), Ronaghan (2002) and Layne and Lee (2001) many governments around the world adopted E-government solutions ranging from simple website, one-way communication, two-way communication and integrated websites with online transactions. Many scholars such as Lyne and Lee (2001) and Moon (2002) came up with stages of E-government development stages, with a general agreement on essential stages such as publishing, transactions and integration, however the approaches in terms of technological and organizational perspectives seems to differ in the E-government life cycle.

### **County Financial capacity and Adoption of E-government for improves service delivery**

The availability of adequate financial resources to build or enhance organization’s IT infrastructure has been seen as one of the strongest predictors of innovation. Financial support is indispensable for Organizations adopting IT innovations. Investment in information and technology is required in procuring and developing adequate level of hardware and software for future innovations as well as training end users. Kamal and Themistocleous (2006) noted that there is a big variation between public sector and private sector in terms of budget allocation for adopting New IT. Financial resources are termed as critical for any successful implementation and adoption of E-government projects. It is also seen as the greatest obstacle to moving county government services to the online services by 70% of the respondents. According to Okiy (2005), the importance of financial resources for excellence service cannot be over emphasized, it’s the glue that holds all stakeholders together and enable then to attain organization goals.

Heeks (2001) observes that technology costs money and money is always in short supply in every organization especially in the public sector where there are competing needs. E-government systems require considerable financial resources: resources must be allocated to developing and managing systems, building up technical infrastructures, and coordinating systems and initiatives. According to Lind (1991) many organization in developing countries lack sufficient financial resources to acquire new and up-to-date technologies. This hinders implementation of new technological innovation, any subsequent enhancement and ongoing expenses during usage. In the United States, Manoharan (2012) indicated that lack of financial resources was acting as a key barrier to the application of E-government for over 57.1 per cent of the county governments and cities. In addition, the author found that funding as the most significant obstacle facing the movement of County government services to the online services.

The United Nations Department of Economic and Social Affairs report (2012) indicate that in the funding of E-government initiatives, financial capacity considerably determine success. To the Italian government, E-government is not costly compared to other projects like road construction that require substantial financial requirements. However, despite the many economic, social and political benefits of E-government, some countries would not invest their available resources to the E-government at the expense of other projects. In a study on E-government adoption in Cape Verde, the World Bank (2017) indicates that implementation of the Information Society Strategic Program (ISSP) and the Electronic Government Action Plan (EGAP) was facing the change of financial resources availability. This was as a result of the high cost of telecommunications in the country, lack of financing capacity for ICT projects.

In Vietnam, Khanh (2013) indicates that the importance of funding in the implementation of E-government cannot be emphasized. He argues that while other factors such as human resource and infrastructure are required in the adoption of E-government, funding is more significant as it is required in ensuring the success of the

implementation process. Therefore, lack of funds in E-government projects is certainly a disincentive. In the consideration of the E-government project's funding, governments should consider financial savings and cost reduction that emanate from the utilization of electronic services both in the medium and long term. Even though the initial start-up cost of the E-government is considered to be high in the short, but most of the costs incurred in E-government adoption are not recurrent.

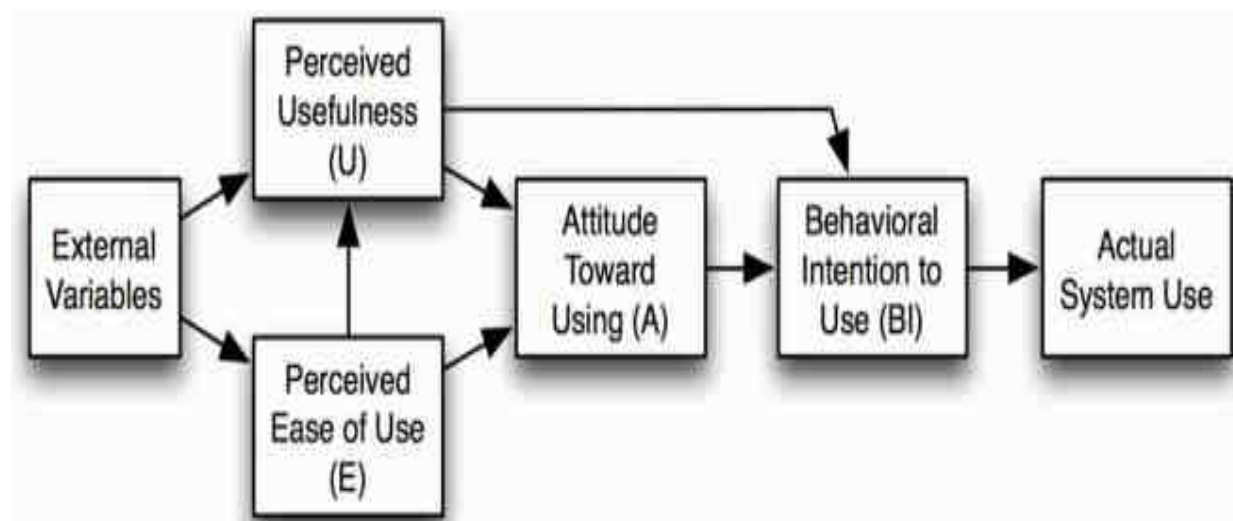
Al-Shboul, Rababah and Al-Saqqa (2014) financial cost and budgeting were some of the main factors affecting the implementation of E-government services in Jordan. The authors indicated that while the benefits of E-government included efficiency, in service delivery, improvement of service delivery quality, citizen's empowerment as well as increment in transparency and accountability, the government had not allocated adequate financial resources to the implementation process. In Botswana, Nkwe (2012) indicate that lack of allocated budget for E-government deployment was one of the main challenges facing adoption of E-government in Botswana. E-government systems require the allocation of considerable financial resources. This is because resources must be allocated to the development and management of systems, building up of technical infrastructures, and coordination of systems and initiatives.

Penina (2015) indicates that financial constraint was one of the main factors affecting the adoption of E-government in the County Government of Narok. The financial budget for the ICT development in Narok County was Ksh. 33 million, which was very low compared to other projects in the County. For instance, road projects budget was Ksh.1.2 billion. The required budget for E-government in the County was Ksh. 230 billion, which is needed to roll-over basic infrastructure and facilitate the ICT take-off. Therefore, the allocated budget was only 0.138 per cent of the total budget estimates.

### **Theoretical framework**

Technology acceptance model (TAM) was developed by Davis (1989), to explain the way users accept and use technology. Many researchers have used TAM in reviewing the acceptance of a technology. Technology acceptance Model seeks to conceptually understand and explain individual's intention to use or not use technology system using two perceptions namely; Perceived usefulness (PU) which is the degree to which a person believes that using a particular system would enhance his or her job performance and Perceived ease of use (PEoU), which is the degree to which a person believes that using a particular system would be free their physical and mental efforts. Perceived usefulness and perceived ease of use influences one's attitude towards system usage, which influences one's behavioral intention to use a system, which, in turn, determines actual system usage (Davis, 1989). The model is criticized for lack of external variables that affect PU and PEoU such as attitude. Various researchers have revised TAM, with notable changes in TAM2 (Venkatesh and Davis, 2000) and TAM3 (Venkatesh and Bala, 2008). TAM2 included social influence and cognitive instrumental processes as the determinants of perceived usefulness. The social determinants are; subjective norm, the degree to which an individual perceives that most people who are important to him think he should or should not use the system and image, "the degree to which an individual perceives that use of an innovation will enhance his or her status in his or her social system". The cognitive determinants include job relevance, which is the degree to which an individual believes that the target system is applicable to his or her job; output quality, which is the degree to which an individual believes that the system performs his or her job tasks well and result demonstrated as the degree to which an individual believes that the results of using a system are tangible, observable, and communicable. (Venkatesh and Davis, 2000; Venkatesh and Bola, 2008). Experience and voluntariness were included as moderating factors of subjective norm (Venkatesh and Davis, 2000).

According to Talukder (2012), if the top management is committed to support and provide a positive environment that encourages user participation in E-government systems, most user will use the system. Job task and the system should match. The management should take note of adopter's social status, social recognition and a clear understanding of the E-government system can lead to perceived usefulness of the system.

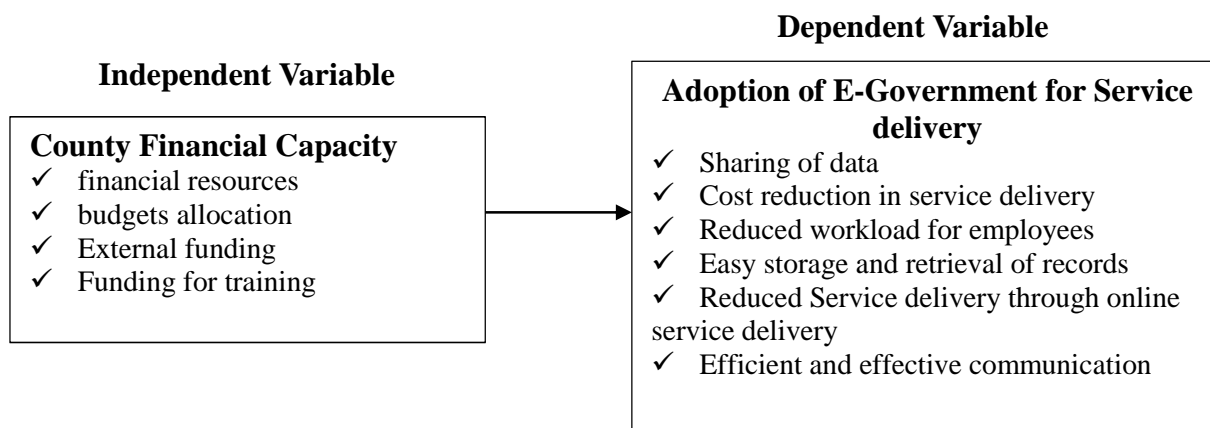


**Figure 1: Technology Acceptance Model**

Source: Davis et. al. (1989), Venkatesh et. al. (2003)

### Conceptual framework

The aim of this study was to investigate the influence of financial capacity on the adoption of E-government in county government. The relationship between the independent and dependent variables is shown in Figure 2.



**Figure 2: Conceptual Framework**

### The Research Methodology

The study adopted mixed method approach which used pragmatic system of philosophy. According to Johnson and Onwuegbuzie (2004), in a single study the researcher can combine quantitative and qualitative methods, approaches and techniques to make logic inquiry of induction, deduction and abduction. The study also combined a correlational and cross-sectional descriptive survey research design. This enabled the study to use inferential and descriptive analysis of data for better results. The Target population for this study was employees of Kajiado County government. The total population for this study was in forty-three departments and 2660 employees working in said departments within the devolved ministries.

The sample size for the employees working under the county government of Kajiado in various department under the ten ministries was based on Cochran (2007) formulae and Krejcie and Morgan model (1970) the computed sample size was 335. The same is verified in the formula below:

$$n = \frac{Z^2 * p * q}{e^2}$$

Where;

n = refer to the desired sample size when the entire survey population is greater than 10,000.

Z = the standard normal deviate usually set at 1.96 which corresponds to the 95% confidence level.

p = Target population estimated to have a particular characteristic, 50% is normally used because it is the recommended measure if there is lack of reasonable estimate.

q = 1.0 – p

e = degree of accuracy desired in this context set at 0.05.

The sample size of 335 employees was obtained by substituting in the formula above as indicated below:

$$n = \frac{Z^2 * p * q}{e^2} = \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2} = 384$$

where the above sample size was be adjusted using equation 2:

$$nf = \frac{n}{1 + \frac{(n-1)}{N}}$$

Where:

nf = the sample size,

n = the sample size in equation 1; and

N = is the population size

Given that the population of interest is 2660 (population size N=2660), the corrected sample size was obtained as illustrated mathematically using Krejcie and Morgan model as:

$$nf = \frac{n}{1 + \frac{(n-1)}{N}}$$

$$n = 384 / [1 + (384/2660)]$$

$$n = 335$$

This study adopted mixed method of sampling, that is, proportional sampling technique, simple random sampling technique, and purposive sampling technique. For this study, a proportional sampling was used to sample of the respondents in each department. From a sample of 335 respondents, one (1) respondent was purposively selected in each department who particularly deals with ICT to provide unique information on how E-government services are carried out in their department. This contributed to 43 respondents who provided information through responding to questions designed in the interview guide. On the other hand, random sampling technique was used to select 292 respondents from the departments; these respondents formed the part of respondent that answered the questions captured through the questionnaire concerning how E-government services are handled.



**Table 1: Selected Samples**

Ministry of Government	No. of Department	No. of employees per department	Samples
Ministry of Agriculture, Livestock, Fisheries and Cooperative	4	273	34
Ministry of Health services, Medical Services and Public Health	2	1045	132
Ministry ICT Gender and Social Services	5	20	3
Ministry of Education, Youths, Sports and Social Services	4	733	93
Ministry of Public Works, Roads and Transport, Housing and Energy	5	76	9
Ministry of Environment, Water and Irrigation	2	77	10
Ministry of Trade, Tourism, Culture & Wildlife	4	48	6
Ministry of Public Services Administration and Citizen Participation and E-government.	3	162	20
Ministry of County Treasury	5	196	24
Ministry of Land, Physical Planning and Natural Resources	7	30	4
<b>Total</b>	<b>43</b>	<b>2660</b>	<b>335</b>

This study used primary data, where data was collected using a structured questionnaire and an interview guide. A pilot testing was conducted using the questionnaire to 35 employees of various departments in a nearby County-Kiambu to test the reliability and validity of the questionnaire. The pilot study was conducted through random sampling. According to Creswell (2013), the pilot test should constitute 10% of the sample, therefore, the pilot test is within the recommendation. The study used both content and constructs validity to ascertain the validity of the instrument. To ensure content validity, the questionnaire was given to experts in the area of project planning and management to give their views and suggestions for improvement of the questionnaire. Construct validity was ensured by reviewing empirical and theoretical literature in order to understand the relevant concept by constructing instruments items based on previous studies. The research instruments in this study were examined by the supervisors and other experts in research methodology. Reliability analysis was also carried out using the Alpha coefficient (Cronbach, 1951). Higher scores generate more reliable scale. According to Nunnally (1978), a score of 0.7 is an acceptable reliability coefficient.

Qualitative data was analyzed based on the content matter of the responses. Responses with common themes or patterns were grouped together into coherent categories. Quantitative data was presented in tables and explanation in prose. Data collected was coded and entered into Statistical Packages for Social Scientists (SPSS Version 17.0) and analyzed using descriptive and inferential statistics. Descriptive statistics involved use of absolute and relative (percentages) frequencies, measures of central tendency and dispersion (mean and standard deviation respectively). Inferential statistics such as correlation and regression analysis were used to establish the nature and magnitude of the relationships between the variables and to test the hypothesized relationships. The research hypotheses were tested at 95% level of confidence. Pearson's product moment correlation ( $r$ ) was derived to show the nature and strength of the relationship. Coefficient of determination ( $R^2$ ) was used to measure the amount of variation in the dependent variable explained by the independent variable.

To obtain the effect of the independent variables on the dependent variable, simple regression analysis was used. To obtain effect of county financial capacity model 1 was estimated. The model was specified as follows:

$$E\text{-gov} = \beta_0 + \beta_1 FC + \mu \dots \dots \dots (1)$$

Where;

E-gov= is a composite score for adoption of E-government.

$B_0$  = Constant

$B_1$  = Beta Coefficients (slope)

FC= a composite score for financial capacity

u= error term

## Research Findings and Discussion

The study sample size was 335 employees working in various departments in the County Government Kajiado. Out of 335 questionnaires which were distributed, 282 were duly filled and returned. Therefore, the response rate was 83.92%. According to Nulty (2011), a response rate of 75 per cent is adequate for analysis, for making conclusions and making inferences about a population. In addition, Fincham (2010) indicates that a response rate of 60% and above is acceptable for analysis. This implies that the response rate (83.92%) was adequate for analysis, drawing conclusions and reporting.

### Adoption of E-government for Service Delivery

The study sought to obtain the extent of implementation of E-government in the provision of services in various ministries. As such, the respondents were requested to indicate the extent to which the implementation of E-government affected provision of services in their respective ministries. The data driven was as presented in Table 2.

**Table 2: Adoption of E-government for Service Delivery**

	Frequency	Percent
Very little extent	57	20.2
little extent	18	6.4
Moderate	63	22.3
Great extent	96	34.0
Very great extent	48	17.0
<b>Total</b>	<b>282</b>	<b>100.0</b>

Table 2 shows that a good number of the respondents 96 (34%) indicated that implementation of E-government affected provision of services in their ministries to great extent, followed 57 (20.2%) with very little extent, 48 (17%) with very great extent and 18 (6.4%) with little extent. The findings show that the implementation of E-government affected provision of services in various ministries to great extent and very great extent.

### Influence of Adoption of E-government for Service Delivery

The study sought to determine influence of Adoption of E-government on Service Delivery in the County government of Kajiado. As such, the respondents were requested to indicate the influence of E-government adoption on service delivery in the County. Table 3 presents the results.

**Table 3: Influence of Adoption of E-government for Service Delivery**

	Mean	Std. Deviation
E-government has reduced cost of delivering services	3.776	1.104
Major function we do in our ministry are done electronically	3.712	1.079
This ministry I work in has an electronic payroll system that's pays salaries and keeps records for tax information	4.074	1.134
The county government has established an e-learning platform that enable staff access information in regards to training and learning opportunities	2.914	1.262
Management of records and sharing of information has improved immensely since implementation of E-government systems	3.648	1.100
Time taken to process any transaction has been reduced as the government has implemented E-government in service delivery	3.585	1.116
Am able to store and retrieve records when delivering services	3.819	1.011



Through E-government suppliers can bid for various government tenders electronically	3.744	1.140
There is a website developed that publishes information and gives the public access to different services	3.329	1.334
Since introduction of E-government, the nature of my work has gradually moved from handling a lot of paper to being paperless	3.606	1.152
Electronic communication has improved service delivery	3.946	0.951
<b>Composite</b>	<b>3.650</b>	<b>1.125</b>

Table 3 shows that the staffs agreed with a mean of 4.074 and a standard deviation of 1.134 that their ministries have electronic payroll system that pays salaries and keeps records for tax information. This implies that the County government of Kajiado had adopted electronic payroll system in payment of salaries and record keeping. They also agreed with a mean of 3.946 and a standard deviation of 0.951 that electronic communication has improved service delivery. This implies that the County government of Kajiado had adopted electronic communication, which is an important component of E-government. These findings agree with Liikanen (2003) argument that E-government entails computerizing the back and front office using ICT tools as well as modifying organization internal operation processes of the public sector. Moreover, the respondents that they were able to store and retrieve records when delivering services as shown by a mean of 3.819 and a standard deviation of 1.011. The adoption of electronic record keeping enabled easier storage and retrieval of records thus improving service delivery in the County government of Kajiado.

With a mean of 3.776 and a standard deviation of 1.104 the respondents agreed that E-government has reduced cost of delivering services. The respondents further agreed with a mean of 3.744 and a standard deviation of 1.140 that through E-government suppliers can bid for various government tenders electronically. This implies that the adoption of E-government had led to an improvement in the tendering process and in the reduction of cost in service delivery. Further, the respondents agreed that major function in their ministries were done electronically as shown by a mean of 3.712 and a standard deviation of 1.079. With a mean of 3.648 and a standard deviation of 1.100 the respondents agreed that management of records and sharing of information has improved immensely since implementation of E-government systems. Besides enabling easier storage and retrieval of information, electronic record keeping enabled easier sharing of information in the County government of Kajiado.

They also agreed that since the introduction of E-government, the nature of their work has gradually moved from handling a lot of paper to being paperless as shown by a mean of 3.606 and a standard deviation of 1.152. This implies that the adoption of E-government led to a reduction in the utilization of paper. These findings are in line with Huang (2010) argument that E-government involves office automation through online services and transactions to improve government services.

Further, they agreed that time taken to process any transaction has been reduced as the government has implemented E-government in service delivery as shown by a mean of 3.585 and a standard deviation of 1.116. This implies that the adoption of E-government in the County government of Kajiado led to timely delivery of services. These findings concur with Huang (2010) argument that by use of E-government, the government is able to increase its efficiency and offer better quality services.

However, they moderately agreed that there was a website developed that published information and gave the public access to different services as shown by a mean of 3.329 and a standard deviation of 1.334. These findings agree with Layne and Lee (2001) argument that many governments around the world adopted E-government solutions ranging from simple website, one-way communication, two-way communication and integrated websites with online transactions. Finally, the moderately agreed that the County government has established an e-learning platform that enable staff access information with regards to training and learning opportunities as shown by a mean of 2.914 and a standard deviation of 1.262. This implies that the establishment of e-learning platform that enable staff access information with regards to training and learning opportunities was not as effective as it should be.

### **Financial Capacity and Adoption of E-government**

The objective of this study was to assess the influence of Financial capacity on the adoption of E-government in the County Government of Kajiado.

### Adequacy Financial Resources to Implement E-government

The study sought to determine the adequacy of financial resources in the implementation of E-government. As such, the participants were asked to indicate whether the County government has adequate financial resources to implement E-government. The results were as shown in Table 4.

**Table 4: Adequacy Financial Resources to Implement E-government**

	Frequency	Percent
Yes	153	54.3
No	129	45.7
<b>Total</b>	<b>282</b>	<b>100.0</b>

Table 4 shows that majority of the respondents 153 (54.3%) indicated that County government has adequate financial resources to implement E-government centrally while 129 (45.7%) indicated that it has inadequate financial resources to implement the adoption of E-government. The findings show that the County has adequate financial resources to centrally implement the E-government. These findings agree with Kamal (2006) findings that financial support is indispensable for Organizations adopting IT innovations.

### Influence of Aspects of Financial Capacity on the Adoption of E-government

The study sought to determine influence of financial capacity and adoption of E-government in the County government of Kajiado. As such, the study participants were asked to indicate the extent at which financial capacity aspects influenced the adoption of E-government. The results were as presented in Table 5.

**Table 5: Influence of Aspects of Financial Capacity on the Adoption of E-government**

	Mean	Std. Deviation
Financial resources are termed as critical for any successful implementation and adoption of E-government	4.383	.981
Availability of financial resources to enhance or build organizational IT infrastructure is seen as one of the strongest predictors of innovation	4.148	.979
E-government systems adoption require considerable financial resources in terms of implementation and maintenance	4.191	.983
Investment in information and technology is required in procuring and developing adequate level of hardware and software for future innovations as well as training end users	4.202	.997
County government lacks sufficient financial resources to acquire new and up-to-date technologies that hinders implementation of new technological innovation like E-government systems	3.670	1.301
Lack of funding in a project is certainly an impediment especially when adopting an innovation means that individuals must go through a learning curve and take on new responsibilities as a result of developing expertise	3.904	1.064
E-government systems require considerable financial resources which is used in building up technical infrastructures and coordinating systems and initiatives	4.085	.884
The funding of the ICT projects is the factor which promotes the success of E-government	4.085	1.029
Lack of financial resources as a barrier to implementing and adopting E-government and therefore County government should solicit for funds from external sources to assist in E-government adoption	3.914	1.156
<b>Composite</b>	<b>4.064</b>	<b>1.041</b>

Table 5 shows that the respondents agreed on most of the Likert items on financial capacity and adoption of E-government with a mean of 4.064 and a standard deviation of 1.041. This implies that financial capacity affects the adoption of E-government in the County government of Kajiado. These findings concur with Khanh (2013) argument that while other factors such as human resource and infrastructure are required in the adoption of E-

government, funding is more significant as it is required in ensuring the success of the implementation process in E-government.

In addition, the respondents agreed with a mean of 4.383 and a standard deviation of 0.981 that financial resources were termed as critical for any successful implementation and adoption of E-government. They also agreed that investment in information and technology was required in procuring and developing adequate level of hardware and software for future innovations as well as training end users as shown by a mean of 4.202 and a standard deviation of 0.997. In addition, they agreed that adoption of E-government systems required considerable financial resources in terms of implementation and maintenance as shown by a mean of 4.191 and a standard deviation of 0.983.

Moreover, they agreed that availability of financial resources to enhance or build organizational IT infrastructure was seen as one of the strongest predictors of innovation as shown by a mean of 4.148 and a standard deviation of 0.979. These findings agree with Moon (2002) argument that the availability of adequate financial resources to build or enhance organization's IT infrastructure has been seen as one of the strongest predictors of innovation. The participants also indicated that E-government systems required considerable financial resources which were used in building up technical infrastructures and coordinating systems and initiatives. Further, they agreed that funding of the ICT projects were the factors which promoted the success of E-government as shown by a mean of 4.085 and a standard deviation of 1.029. This agrees with Gakunu (2004) observation that technology costs money and money is always in short supply in every organization especially in the public sector where there are competing needs. With a mean of 3.914 and a standard deviation of 1.156 they agreed that lack of financial resources were barriers to implementation and adoption of E-government and therefore County government should solicit for funds from external sources to assist in E-government adoption.

They also agreed that lack of funding in a project was certainly an impediment especially when adopting an innovation meant that individuals must go through a learning curve and take on new responsibilities as a result of developing expertise as shown by a mean of 3.904 and a standard deviation of 1.064. Moreover, they agreed that County government lacked sufficient financial resources to acquire new and up-to-date technologies that hindered implementation of new technological innovation like E-government systems as shown by a mean of 3.670 and a standard deviation of 1.301. According to Lind (1991) many organization in developing countries lack sufficient financial resources to acquire new and up-to-date technologies. This hinders implementation of new technological innovation, any subsequent enhancement and ongoing expenses during usage.

The key informants were requested to indicate whether the county allocated adequate financial resources to the E-government programs. From the findings, they indicated that the current government is providing the required ICT resources. However, some key informants felt that the county government does not provide enough ICT financial resources.

*We do not have funds though the budgets are in place so we keep on moving the budget forward K10*

The key formants were also requested to indicate whether the county provides enough resources to the innovation process in the adoption of E-government. From the findings they indicated that the resources required included HR/ICT infrastructure, finance, internet, network, computers, technical support and they were not enough.

### **Testing Hypotheses**

The study sought to establish the influence of financial capacity on adoption of E-government in the county government of Kajiado. The hypothesis was as follows;

H<sub>1</sub> Financial capacity has no significant influence on the adoption of E-government in the county government of Kajiado.

The hypothesis was tested by use of correlation analysis and regression analysis. Using 95 per cent confidence interval, the significance level was 0.05. Therefore, the alternative hypothesis was accepted when the p-value was less than the significance level (0.05).

### Correlation Analysis for Financial Capacity and adoption of E-government

The study sought to examine the association between financial capacity and adoption of E-government in the County government of Kajiado. Pearson correlation coefficient was used. The results were as presented in Table 6.

**Table 6: Correlation Coefficients for Financial Capacity and adoption of E-government**

		Adoption of E-government for service delivery	Financial Capacity
Adoption of E-government for service delivery	Pearson Correlation	1	.750**
	Sig. (2-tailed)		.000
	N	282	282
Financial Capacity	Pearson Correlation	.750**	1
	Sig. (2-tailed)	.000	
	N	282	282

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows that there is a strong positive association between financial capacity and adoption of E-government in the County government of Kajiado ( $r=0.750$ ). The relationship was significant because the p-value (0.000) was less than the alpha value (0.05, at 95% confidence interval). In addition, the association between financial capacity and adoption of E-government in the County government of Kajiado was positive. The findings show that there is a perfect, positive and significant association between Financial capacity and adoption of E-government in the County government of Kajiado. Thus, we can accept the alternative hypotheses indicating that “financial capacity has a significant influence on the adoption of E-government in the county government of Kajiado.”

### Regression Analysis for Financial Capacity and Adoption of E-government

The R-Squared was used to indicate variation in adoption of E-government that can be explained financial capacity. The results were as presented in Table 7.

**Table 7: Model Summary for Financial Capacity and Adoption of E-government**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.750	.562	.561	.468

Table 7 shows that the r-squared for the relationship between financial capacity and adoption of E-government was 0.562, implying that the County financial capacity could explain 56.2% of the adoption of E-government in the County Government of Kajiado. This implies that County financial capacity was considerably affecting adoption of E-government in the County Government of Kajiado. These findings are in line with Al-Shboul, Rababah and Al-Saqqa (2014) findings that financial cost and budgeting were some of the main factors affecting the implementation of e- Government services in Jordan.

Analysis of variance was used to determine whether the model the model was a good fit for the data in determining the influence of financial capacity on the adoption of E-government. The results were as presented in Table 8.

**Table 8: Analysis of Variance for Financial Capacity and Adoption of E-government**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.900	1	78.900	359.558	.000 <sup>b</sup>
	Residual	61.442	280	.219		
	Total	140.341	281			

Table 8 shows that the p-value (0.000) was less than the significance level (0.05) and the F-calculated (359.558) was more than the F-critical (3.8415). This implied that the regression model could be used for predicting the influence financial capacity on the adoption of E-government in Kajiado County Government.

Table 9 shows the regression coefficients for the influence of financial capacity on the adoption of E-government in the County government of Kajiado.

**Table 9: Coefficients for Financial Capacity and Adoption of E-government**

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	.823	.153		5.384	.000
	County Financial Capacity	.763	.040	.750	18.962	.000

Table 9 showed that County financial capacity has a significant influence on the adoption of E-government as shown by regression coefficient (0.763) and a p-value (0.000). The findings indicate that an improvement in financial capacity leads to an improvement in the adoption of E-government in the county government of Kajiado.

### Conclusions and Recommendations

The study concludes that financial capacity has a significant influence on the adoption of E-government in the County Government of Kajiado. The study established that financial resources were a key challenge in the adoption of E-government. This is because finances are required in the buying of equipment such as computers. In addition, availability of financial resources helps to enhance or build organizational IT infrastructure, which is one of the strongest predictors of innovation. Therefore, the study recommends that the County government of Kajiado should increase its budget allocation to the implementation of E-government.

### Suggestions for Further Research

The study was delimited to Kajiado County, which is one of the counties in Kenya. All county governments in Kenya are expected to use E-government. Different counties in Kenya have different experiences in the adoption of E-government due to differences in resources, community cultures, and literacy levels among other factors. Therefore, similar studies should be conducted in other county governments of Kenya on the influence of financial capacity on the adoption of E-government for improved service delivery.

The study was limited financial capacity, which explains 56.2% of the adoption of E-government. Therefore, further studies should be conducted on other factors influencing adoption of E-government in County governments of Kenya. The government of Kenya has developed various policies regarding the adoption of E-government. These policies include ICT policy. Therefore, further studies should be conducted on the influence of government policies on the adoption of E-government in County governments of Kenya. The study was also carried out in one County. More counties can be included in a study for bench marking and comparison.

### References

- Abdullah, A., Rogerson, S., Fairweather, N. B., & Prior, M. (2006). The motivations for change towards E-government adoption: Case studies from Saudi Arabia. *In E-government Workshop* (Vol. 6, No. 1, pp. 1-21).
- Aiman-Smith, H & Green, G. (2002). The use of interorganisational ICT in United States construction projects', *Automation in Construction*, 19(1), 73-83.
- Al-Sebie, M. & Irani, Z. (2010). Technical and organisational challenges facing transactional E-government systems: an empirical study. *Electronic Government, an International Journal*, 2(3), 247-276.
- Al-Shboul, A., Rababah, O., & Al-Saqqa, S. (2014). Challenges and Factors Affecting the Implementation of E-government in Jordan. *Journal of Software Engineering and Applications*, 7(13), 16-34.



- Bhatnagar, S. (2004). E-government: From vision to implementation-A practical guide with case studies (Vol. 21, No. 1). Sage.
- Cochran, W.G. (2007). *Sampling Techniques*. 3<sup>rd</sup> Ed. New Delhi: Wiley India Pvt. Limited
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46, 186-204
- Venkatesh, V. & Bala, H. (2008) Technology Acceptance Model 3 and a Research Agenda on Interventions. *Decision Sciences*, 39(2), 21-32.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, 16(3), 297-334.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-339.
- Fichman, R. G. (1992, December). Information technology diffusion: a review of empirical research. In *ICIS* (pp. 195-206).
- Fincham, J.E. (2010). Response Rates and Responsiveness for Surveys, Standards, and the Journal. *Journal of Academic Research* 72(2), 23-38.
- Graafland-Essers, I., & Etedgui, E. (2003). *Benchmarking E-government in Europe and the US* (No. 1733). Rand Corporation.
- Hall, B. H., & Khan, B. (2003). *Adoption of new technology* (No. w9730). National bureau of economic research.
- Heeks, R. (2001). *Understanding e-governance for development*. Manchester: Institute for Development Policy and Management.
- Heeks, R. (2003). Most eGovernment-for-development projects fail: how can risks be reduced? (Vol. 14). *Manchester: Institute for Development Policy and Management*, University of Manchester.
- Hiatt, J. (2006). *ADKAR: a model for change in business, government, and our community*. Retrieved from <https://www.amazon.com/>
- Huang, Z. (2010). A comprehensive analysis of U.S. counties' E-government portals: development status and functionalities. *European Journal of Information Systems*, 16, 49-164.
- Jeyaraj, A., Rottman, J. & Lacity, M. (2006). A review of the predictors, linkages, and biases in IT innovation adoption research. *Journal of Information Technology*, 21(1), 1 - 23.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, 33(7), 14-26.
- Kamal, M., & Themistocleous, M. (2006). A conceptual model for EAI adoption in an E-government environment. *Proceedings of the European and Mediterranean Conference on Information Systems, Costa Blanca, Alicante, Spain, 6-7 2006*
- Kyobe, M. (2011). Investigating the key factors influencing ICT adoption in South Africa. *Journal of Systems and Information Technology*, 13(30), 255-267.
- Khanh, N.T. (2013). *The critical factors affecting E-government adoption: A Conceptual Framework in Vietnam*. Retrieved from <https://arxiv.org/ftp/arxiv/papers/1401/1401.4876.pdf>
- Lau, E. (2003, November). Challenges for E-government development. In *5th Global Forum on reinventing Government* (pp. 1-18). Mexico City.
- Layne, K., & Lee, J. (2001). Developing fully functional E-government: A four stage model. *Government information quarterly*, 18(2), 122-136.
- Liikanen, E. (2003). E-government and the European Union. *Rivista online UPGrade*, 4(2), 21-28.
- Manoharan, A. (2012). A Study of the Determinants of County E-government in the United States. *The American Review of Public Administration*, 2(7), 32-54.
- Moon, M. J. (2002). The evolution of E-government among municipalities: rhetoric or reality?. *Public administration review*, 62(4), 424-433.
- Moon, M. J. (2002). The evolution of e-government among municipalities: rhetoric or reality?. *Public administration review*, 62(4), 424-433.
- Lind, K. (1991). E-government Website accessibility: In-depth evaluation of Saudi Arabia and Oman. *The Electronic Journal of E-government*, 3(3), 99-106.
- Gakunu, P (2004). *E-government Strategy for Kenya*. Retrieved from [http://www.apc.org/apps/img\\_upload](http://www.apc.org/apps/img_upload)
- Ndou, V. (2004). E-government for developing countries: opportunities and challenges. *The Electronic Journal on Information Systems in Developing Countries*, 18(1), 1-24.
- Neufeld, D, Dong, L & Higgins, C. 2007, 'Charismatic leadership and user acceptance of information technology', *European Journal of Information Systems*, 16(4), 494-510.
- Nkwe, N. (2012). E-government: Challenges and Opportunities in Botswana. *International Journal of Humanities and Social Science*, 2(17), 39-43.



- Nograšek, J. (2011). Change management as a critical success factor in E-government implementation. *Business Systems Research*, 2(2), 13-24.
- Nulty, D.D. (2011). The adequacy of response rates to online and paper surveys: what can be done? *Assessment & Evaluation in Higher Education*, 33(3), 301–314.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.
- Okiy, R. B. (2005). Funding Nigerian Libraries in the 21st century. Will funding from alternative sources suffice? *The Bottom Line Managing Library Finances*, 18 (2), 71-77.
- Ong'ang'a, A. (2010). *ICT infrastructure and E-government adoption among local authorities in Kisumu county, Kenya*. Retrieved from <http://erepository.uonbi.ac.ke/bitstream/handle/11295/13357/>
- Penina, S. (2015). *Factors affecting the adoption of E-government in county governments: The Case of Narok County*. Retrieved from <http://erepository.uonbi.ac.ke/bitstream/handle/11295/93449/>
- Raguseo, E., & Ferro, E. (2011). eGovernment and Organizational Changes: Towards an Extended Governance Model. In M. Janssen, H. J. Scholl, M. Wimmer, & Y. Tan, *Electronic Government - Lecture Notes in Computer Science 6846* (p. 418- 430). Berlin: Springer.
- Ronaghan, S. A. (2002). Benchmarking E-government: a global perspective. *Assessing the progress of the UN member states. United Nations Division for Public Economics and Public Administration & American Society for Public Administration*.
- Talukder, M. (2012). Factors affecting the adoption of technological innovation by individual employees: An Australian study. *Procedia-Social and Behavioral Sciences*, 40, 52-57.
- The World Bank (2017). *Improving Governance and Service Delivery through E-government: the Case of Cape Verde*. Retrieved from <http://www1.worldbank.org/publicsector/Apresentacao.pdf>
- United Nations Department of Economic and Social Affairs (2012). *Plan of Action: E-government for Development in Italian Government*. Retrieved from [unpan1.un.org/intradoc/groups/public/documents/un/unpan010301.pdf](http://unpan1.un.org/intradoc/groups/public/documents/un/unpan010301.pdf)
- Wood-Harper, T., Ibrahim, O., and Ithnin, N. (2004) 'An interconnected success factor approach for service functional in Malaysian electronic government'. 12th February, ICEC <http://www.netcaucus.org/books/egov2001/'04>, Sixth International Conference on Electronic Commerce.
- Young-Jin, S., & Seang-Tae, K. (2007). E-government Concepts, Measures, and Best Practices. In *Global E-government: Theory, Applications and Benchmarking* (pp. 340-369). IGI Global.