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Gisemba, A. B., & Iravo, M. A.

The Strategic JOURNAL of Business & Change MANAGEMENT
ISSN: 2312-9492 www.strategicjournals.com
Vol. 6, Iss. 2, pp 2385 - 2399, June 4, 2019. www.strategicjournals.com, ©Strategic Journals

INFLUENCE OF E-GOVERNMENT ON SERVICE DELIVERY IN NAIROBI DISTRICT LAND REGISTRY, KENYA

Gisemba, A. B.,[1*] & Iravo, M. A.[2]

[1*] Master Candidate, Jomo Kenyatta University of Agriculture & Technology [JKUAT], Kenya

[2]Professor, Ph.D, Jomo Kenyatta University of Agriculture & Technology [JKUAT], Kenya

Accepted: June 4, 2019

ABSTRACT

The objective of this study was to determine the influence of e-government on service delivery in Nairobi district land registry. The study adopted a descriptive survey research design. The target population comprised of the Nairobi district land registry top management and staff. The researcher used stratified random sampling and simple random sampling where 30% of the target population representative of the entire population was studied. Questionnaires with close-end questions and likert scales were used as the research instrument by being administered to the respondents and collected after due completion by the researcher. The collected data was analyzed using Statistical Package for the Social Sciences (SPSS version 23) frequencies, percentages, means, standard deviations and regression analysis. Results from regression model confirmed that technology and staff training positively affect service delivery. It was established that indicators of staff training which included skills and expertise, motivation, seminars and workshops to a great extent influence service delivery as shown by high positive beta coefficient from the regression model. The study established that enforcement and compliance of ICT policies can be improved through the top management commitment. Finally, technology was determined from the findings to be the most significant variable that affects service delivery through e-government systems. The study also concluded that public organization had adequate ICT infrastructure necessary for service delivery to the citizens. The researcher recommended that organization should facilitate continuous and regular seminar and workshops on new technologies or systems being implemented to improve service delivery. The study recommended that the government should invest in advanced technologies and modern ICT infrastructures to ensure efficient and quality service delivery to the citizens.

Key Words: *E-Government, Technology, Staff Training, Service Delivery*

CITATION: Gisemba, A. B., & Iravo, M. A. (2019). Influence of e-government on service delivery in Nairobi District Land Registry, Kenya. *The Strategic Journal of Business & Change Management,* 6 (2), 2385 – 2399.

INTRODUCTION

The emergence of Information and Communication Technology has provided means for faster and better communication, efficient storage, retrieval and processing of data and exchange and utilization of information to its users, be they individuals, groups, businesses, organizations or governments (Mugambi, 2013). ICTs have to be used in order to create and deliver a service, which is useful and has an effective impact for the businesses and for the citizens. Information and communications technology (ICT) is an integral component of government operations and service delivery. ICT is increasingly used as a strategic tool to more efficiently support any Government's priorities and program delivery. In order to have a successful e-Government, the Information and Communication Technology (ICT) solutions, which are at the very core of the e-Government infrastructure, have to be reachable by all citizens (Dwivedi, Weerakkody & Janssen, 2012).

Organizations large and small, private and public, have come to rely on information systems for their day to day operation, planning, and decision making. Effective use of information technologies has become a critical success factor in modern society (Berghout & Tan, 2013). Yet, success is not easily achieved. Many of the failures occur not in the technology, but in how technology is used in the context of the application domain and setting (Venkatraman & Alazab, 2014). Over the years, many methods and techniques have been developed to overcome the challenges in building effective information systems the major one being E-government adoption.

E-government is not a new concept, in that the business of government through its ministries in most countries has for many years employed ICT, in communications, administrative systems, data gathering and storage, security and surveillance, and dissemination of information. E-Government has emerged as the means by which governments, and hence the public sector, can participate in the new knowledge landscape for improved service delivery (Juiz, Guerrero & Lera, 2014).

Therefore the e-government is a fundamental element in the modernization of government. In view of this, Yussuf (2014) argues that the management of the e-government information systems by government agencies has the ability to transform relations with citizens, businesses, and other arms of government. Mak'abong'o (2015) further stated that these practices can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.

E-government is increasingly becoming a fundamental tool for enhancing public administration (Njuru, 2011). However, emerging and expanding ICT applications are expanding the capacity and reach of government and offer many new opportunities and potentials for strengthened performance in the public sector. E-government is not only a tool or platform that enhances delivery of public services but also has the potential to reform the way policies are formulated and implemented in terms of efficiency, accountability, transparency, and citizens' participation (Otieno & Omwenga, 2015).

Kyalo (2016) argues that the establishment of an increasingly pervasive internet, facilitated through a number of disruptive technologies, has created a new landscape in which private and public sector organisations must operate. In this new landscape, knowledge constitutes the most important factor, while learning, which emerges through cooperation, together with increased reliability and trust, is the most important process (Cumbie & Kar, 2016). E-Government has emerged as the means by which governments' ministries, and hence the public sector,

can participate in the new knowledge landscape for improved service delivery.

A broader definition looks at e-government as the use of ICT to strengthen government performance in areas such as more effective and more efficient provision of services, opening new channels for people to access government and official information, and making government more accountable to its citizens (Borura, 2015). This broad definition of e-government centers on tools and applications that can transform the ways government is practiced and the ways public administration reform and good governance goals can be met. In general, a broader view of e-government may be preferred, referring to overall strengthening of government-people relationships, in making internal government processes more efficient and effective, improving the delivery of public services, and expanding processes for democratic accountability and control, citizen participation, and collective decision-making (Alruwaie, 2015).

Statement of the problem

Access to government services in the 1980s was limited to the wider public, leading to frequent public outcries and dissatisfaction in the service delivery. This access was limited due to a wide range of reasons, including corruption practices by civil servants, unreasonable delays in getting desired services, chronic absenteeism, poor record keeping and retrieval and poor customer care (Abdalla et al., 2015). From the early 1990s, the government tried a variety of changes to remedy the situation. Recently, the Kenyan Government, together with external stakeholders and private contractors, started increasing ICT investments to provide the entire population with information and communication regardless of demographic factors.

The ICT sector in Kenya through the Kenya ICT Board (KICTB) in a bid to address the disparity in the distribution of ICT facilities rolled out new "electronic centres" named Huduma Centres. The centres thus have become a relevant and essential part of people's daily lives as they are meant to provide certain governmental services (e-Government). There is need to find out whether these e-government initiatives in Kenya are influencing citizens satisfaction with government service delivery. Therefore, there existed a need for a study that seek to determine the influence of e-government on service delivery in the state corporations in Kenya.

A number of studies have been carried out on ICT strategies and service delivery in Kenya such by Muthama (2012); Borura (2015) ; Mulwa (2015); Kyalo (2016); Yussuf (2014); Karim (2015); Mugambi (2013); and Wangari (2011) have been general or have failed to give detailed insights on the influence of e-government on service delivery in the state corporations in Kenya with Nairobi District Land Registry being the case study. These studies among others attained their objectives by determining the challenges and barriers facing the developing countries in e-government adoption, they did not delve into the influence of e-government on service delivery in Nairobi District Land Registry. Studies by Borura (2015) ; Kyalo (2016); Yussuf (2014); and Mugambi (2013) were too general in that their target population involved the government ministries in Kenya without a specific case study.

There is a paucity of published work on the topic under study, particularly in the context of developing countries in the dynamic African region and specifically in Kenya since the concept of e-government is still at the infancy stages. This study was conducted to bridge this research gap in knowledge that existed.

Study Objectives

The general objective of this study was to determine the influence of e-government on service delivery in Nairobi District Land Registry. The specific objectives were:-

- To establish how staff training influence service delivery in Nairobi District Land Registry.
- To evaluate the influence of technology on service delivery in Nairobi District Land Registry.

LITERATURE REVIEW

Theoretical Framework

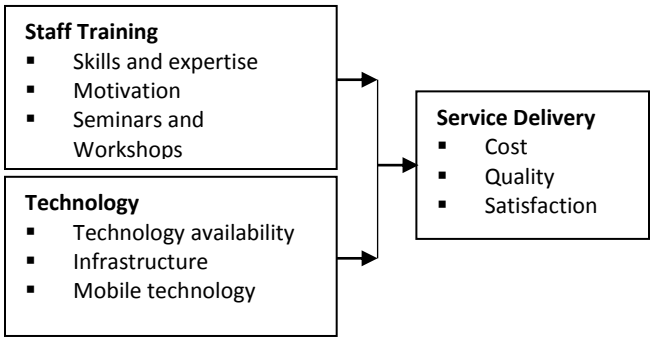
The Knowledge-Based Theory

The knowledge-based theory of the firm considers knowledge as the most strategically significant resource of the firm. Its proponents argue that because knowledge-based resources are usually difficult to imitate and socially complex, heterogeneous knowledge bases and capabilities among firms are the major determinants of sustained competitive advantage and superior corporate performance (Grant, 2007). This knowledge is embedded and carried through multiple entities including organizational culture and identity, policies, routines, documents, systems, and employees (Zander, 2007). The knowledge-based theory determines the nature organization human recourses capabilities which are mostly influenced by the nature of training given to the employees. Existence of professional trained staff in organization and availability of many staff with high education level plays an important role in strengthening the organization capabilities in terms of trained manpower. The study used this theory to establish how an organization trains employee in order to equip them with knowledge that helps them to enhance the service delivery.

Technology Acceptance Theory

The theory was proposed by Davis in 1986 and according to Legris et al (2003) it has proven to be the best theoretical model in helping to explain and predict user behavior of information technology. According to Park (2009), this is one of the well-known models related to technology acceptance and use. The technology acceptance theory uses two variables namely: perceived usefulness and perceived ease of use. Based on perceived usefulness, the theory focuses on the extent to which technology will lead to better performance while under perceived ease of use the theory focuses on the efforts required to operate the new technology. Lee et al (2007) cites the technology acceptance model as a very powerful model in technology applications.

Conceptual framework



Independent variables **Dependent variable**

Figure 1: Conceptual Framework

Source: Researcher (2019)

Staff Training

The delivery of service in government departments has been and continues to draw attention from the external and internal environment. Service delivery is affected by various factors such as remuneration of its workforce, training, promotional procedures, and culture of the systems and among other factors (Budhiraja, 2005). However, it is important to note that Service delivery in government ministries his highly depended on information-technology and the skills and knowledge of the employees who work in those ministries. Despite the existence of these ministries, the service deliveries they offer are questionable. Budhiraja (2005) notes that there is lack of transparency, efficiency, and unsecure delivery of services.

The availability of I.C.T and skilled workforce with good capacity for learning is essential for e-government, along with other factors like leadership,

regulatory frameworks, financial resources, organizational conditions, and Information and Technology infrastructure (Lau, 2003). They span: Leadership, Technology Management, Information Management, Performance Assessment, Project Management and Information Technology. These skills are targeted at both specific categories of government employees like managers, IT specialists as well as public officers in general. Settles (2005) notes that the process of implementing e-government solutions requires new managerial and technical skills to plan, evaluate, manage, finance and integrate information systems as part of government operations.

According to Adegboyega, Tomasz, Elsa and Irshad (2007), Information Technology (IT) skills are technical skills necessary to implement e-government in order to facilitate smooth service delivery through improved information management. These may include basic IT literacy for all employees, and technical skills for IT specialists to design and implement technical elements: hardware, software and communication of e-government initiatives. Specific IT-skills may include: Strategy and Planning, System Development, System Implementation and Maintenance, and Service and User Support.

Technology

The mission of an IT organization is to provide an information processing capability that benefits the business. In order to fulfill this mission IT must provide the services while managing costs and prioritizing requests to optimize business value through operating and supporting the infrastructure required to process, store, secure, and communicate information (Cumbie & Kar, 2016). Therefore the IT function must support business applications, provide technology consulting, training, plan services, employ, train and deploy staff required to provide these services and develop/purchase, test and implement new infrastructure or software to fix IT problems. The success and effectiveness of IT department in executing the above mandate hinges on strategic alignment of IT objective to the business goals.

Chege (2014) argues that strategic alignment positively influences IT effectiveness leading to greater performance on IT service delivery. Pollard and Cater-Steel (2009) posit that IT service management can be conceptualized as solution to a problem of aligning the relationships between the business and IT infrastructure domain in order to take advantage of IT opportunities and capabilities. Their results show that aligned firms have greater IT maturity and that the chief information officer's knowledge of IT service delivery is greater in aligned firms. Lance and Cook (2013) concurs that alignment is the key to achieving improved profitability from IT. For Papp, alignment considers strategic fit between strategy infrastructure, processes and fundamental integration between business and IT.

Kyalo (2016) notes that, one of the most significant approaches in bridging the digital divide within nations and between nations as well as increasing ICT access especially in rural, urban and peri-urban areas, has been the creation of telecentres. Telecentres came to the international scene less than 25 years ago but they only begun attracting the interest of academics recently (Githinji, 2011). The first computer sharing technology emerged in the 1980s particularly with the introduction of the telecottage in Scandinavia (Rega, 2010). According to Rega (2010), the main purpose of the tele cottages at that time was to fight marginalization of remote rural communities in the anticipated information society. In 1990s, with the emergence of the Internet, many were able to get their own computers and connections to the digital world however many others depended on a sort of shared access. As a result a new kind of public access came to light. By 2002, cybercafés, information access points (IAP) and

telecentres had emerged (Rega, 2010; Petter, DeLone, & McLean, 2013).

A telecentre is a shared structured ICT facility that contains a combination of new and old ICTs (television, telephone, books, computers with internet connectivity, video, and facsimile) (Githinji, 2011). Kyalo (2016) contend that a telecentre is a public place where people can access ICTs that enable them to gather information, create, learn and communicate while developing essential digital skills. According to Rothenberg-Aalami & Pal (2005) cited in Githinji (2011), telecentres offer community members the ability to use and publicly share ICTs to support community, economic, educational, cultural and social development through reducing bridging the digital divide, creating economic opportunities, promoting health and other development issues.

Service Delivery

The delivery of service in government departments has been and continues to draw attention from the external and internal environment. Service delivery is affected by various factors such as remuneration of its workforce, training, promotional procedures, and culture of the systems and among other factors (Kulshretha, 2013). However it is important to note that Service delivery in government ministries his highly depended on information-technology and the skills and knowledge of the employees who work in those ministries. Despite the existence of these ministries, the service deliveries they offer are questionable. Kulshretha (2013) notes that there is lack of transparency, efficiency, and unsecure delivery of services.

The availability of I.C.T and skilled workforce with good capacity for learning is essential for e-government, along with other factors like leadership, regulatory frameworks, financial resources, organizational conditions, and Information and Technology infrastructure (Mugambi, 2013). They span: Leadership, Technology Management, Information Management, Performance Assessment, Project Management and Information Technology. These skills are targeted at both specific categories of government employees like managers, IT specialists as well as public officers in general.

Gomez, Pather and Dosono (2012) notes that the process of implementing e-government solutions requires new managerial and technical skills to plan, evaluate, manage, finance and integrate information systems as part of government operations. According to Adegboyega, Tomasz, Elsa and Irshad (2007), Information Technology (IT) skills are technical skills necessary to implement e-government in order to facilitate smooth service delivery through improved information management. These may include basic IT literacy for all employees, and technical skills for IT specialists to design and implement technical elements: hardware, software and communication of e-government initiatives. Specific IT-skills may include: Strategy and Planning, System Development, System Implementation and Maintenance, and Service and User Support.

IT service delivery involves objectively verifiable and quantifiable service outcomes by IT function to enable the organization to manage the relationship between people, processes, technology and information in order for the business to run more efficiently (Gacenga, Cater-Steel & Toleman, 2011). Even though many definitions have been proposed, there seems to be general agreement that IT service delivery is not a unitary, but a multi-dimensional concept that taps on both economic and operational aspects of IT service to the organization. Latif et al., (2010) established that studies dealing with IT service delivery, also cover aspects of benefits, impact and performance, therefore overlaps are evident in the ITSM literature.

The balanced score card (BSC) is one of the most widely adopted IT service delivery measurement methodologies because BSC uses a mix of financial

and non-financial indicators for performance management and measurement especially in the monitoring of the effect of IT on business strategies (McNaughton et al.,2010). BSC has been used successfully in theoretical studies by many other ITSM researchers (Donko & Traljic, 2009; McNaughton et al. 2010). McNaughton et al. (2010) for instance categorized IT service delivery indicators into four BSC quadrants, while Marrone and Kolbe (2011) demonstrated how to measure IT service delivery by regression of ITSM practices with IT service delivery indicators and tracking the number of benefits along the level of ITSM maturity in the organization. Marone and Kolbe (2011) affirms that the most common approach is assessment of the ITSM practices from the service provider perspective focusing on the aspects of performance that have direct impact on efficiency and operation of the service provider to the receiver of the services.

Empirical Review

Kyalo (2016) argues that the establishment of an increasingly pervasive internet, facilitated through a number of disruptive technologies, has created a new landscape in which private and public sector organisations must operate. In this new landscape, knowledge constitutes the most important factor, while learning, which emerges through cooperation, together with increased reliability and trust, is the most important process (Cumbie & Kar, 2016). E-Government has emerged as the means by which governments' ministries, and hence the public sector, can participate in the new knowledge landscape for improved service delivery.

In her study, Githinji (2011) uses a participatory ethnographic research method to explore the application of Information and Communication Technologies for Development (ICT4D) in a rural community in Kenya by evaluating the Nguruman Community Knowledge Center (CKC), which was established in 2003 by a development organization. The study found that ICTs, particularly traditional ICTs (radio and television) can significantly contribute to improving people's living conditions by making information available that will help solve real problems they encounter. The expectations of community members who use these ICTs reflect their level of understanding of the relationship that exists between these tools and the improvement of their living conditions as well as enhancing development efforts.

Hallberg et al. (2011) did case studies of Kenyan digital villages with a focus on women and girls. In the Kenyan context, digital villages are what normally other countries refer to as telecentres, i.e. a centre that provides services with regard to Internet and telecommunication. In this case, the digital villages also offer education, learning, and e-Government. This study sought to establish whether DVP is accessible, and appropriate to women and girls in resource-poor environments and, thus, successful. The results show that male users generally believe that women have a lack of knowledge and understanding of ICT. The results also show that what is said by the government is not fully implemented at the local levels.

Dangal (2011) carried out a study whose overall objective was to assess ICTs penetration in rural Nepal and analyze its role in facilitating services delivery. The study found the accessibility and participation in the process of e-services is affected by socio-economic, organizational and technical factors. Higher education showed different relationship with the ICTs usage rate, similarly young age people have higher accessibility to ICTs. The study found that difference in gender has not any effect on the usage of ICTs among male and female users. Availability of effective content and e-services seems to have direct effect on the accessibility and participation in the e-services. ICTs infrastructure have effects on the service offered and service

diversification, which ultimately affects the accessibility and participation in the e-services. Telecenters operational rules and regulation had positive relationship with the users' participation and accessibility to e-services. Study found that telecenters have helped positively for increasing accessibility to e-services but participation in e-services is not encouraging though increasing.

METHODOLOGY

The study used a cross-sectional survey research design to help in indicating trends in attitudes and behaviors and enable generalization of the findings of the research study to be done. Cross-sectional survey is a method that involves the analysis of data collected from a population, or a representative subset, at one specific point in time (Orodho, 2003).This design was appropriate for this study because the researcher utilized a questionnaire as the data collection tool which saves time, expenses and the amount of quality information yielded is valid, while interviewer bias is reduced because participants complete identically worded self-reported measures. The target population was drawn from a population frame of 300 people. This study's population consisted of staff members from across all the departments of Nairobi District Land Registry. From the target population of 300 a sample size of 30% was taken, giving a respondent base of 90 respondents. This sample size was considered representative and comprehensive in the coverage of the study objectives and economical in terms of time and money. The questionnaires were delivered to the Nairobi District Land Registry management and staff and filled by respondents at their own convenient time. The collected data was analyzed using multiple regression analysis to show the relationship between the independent variables and the dependent variable. Service delivery was regressed against four variables of E-government namely (Customer service, Staff training, Government policy and Technology).

FINDINGS AND DISCUSSION

Reliability analysis

Reliability analysis is a test on the consistency of results yielded by a data collection instrument after a number of repeated trials (Mugenda and Mugenda, 2012). Cronbach's alpha was used by the researcher to test on the internal consistency of the items in the questionnaire used in the study. Cronbach's alpha for each value was established by the SPSS application and gauged against each other at a cut off value of 0.7 which is acceptable according to Cooper and Schindler (2008) while Zikmund and Babin (2013) posits that any values between 0.5 and 0.8 are adequate to accept internal consistency. This study adopted the alpha lowest alpha as 0.5 upwards. In this study all the values were above 0.5 which concludes that the data collection instrument was reliable. This information was recorded in Table 1.

Table 1: Reliability analysis

Variables	Cronbach's Alpha
Staff training	.767
Technology	.858

Regression analysis

A multiple regression model was fitted to determine whether independent variables notably, Staff training, Technology and the dependent variable Y = Service delivery in Nairobi District Land Registry. As a result, this subsection examines whether the multiple regression equation can be used to explain the nature of the relationship that exists between the independent variables and the dependent variable. The multiple regression models were of the form:

$Y = \beta_o + \beta_1 X_{1+} \beta_2 X_2 + ¢$

Based on the study findings, the regression model on service delivery coefficient of determination R Square was 0.782 and R was 0.884. The coefficient of determination R Square indicated that 78.2 % of the variation on service delivery can be explained by the set of independent variables, namely; Staff training and Technology. The remaining 21.8% of variation in service delivery could be explained by other variables not included in this model. This concurred with Orodho (2009) that R-squared is always between 0 and 100%: 0% indicated that the model explains none of the variability of the response data around its mean and 100% indicated that the model explained the variability of the response data around its mean. In general, the higher the R-squared, the better the model fits the data. The adjusted R square was slightly lower than the R square which implied that the regression model may be over fitted by including too many independent variables. Dropping one independent variable will reduce the R square to the value of the adjusted R square.

Table 2: Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.884[a]	.782	.764	.71799

Coefficients of Overall Regression model was used to present the beta coefficients of all independent variables versus service delivery. The study findings were, Staff training (X_1) had a coefficient of 0.373 which was greater than zero. The t statics was 1.838 which had a p-value of 0.000 which was less than 0.05 implied that the coefficient of X_2 was significant at 0.05 level of significance. This showed that Staff training had a significant positive influence on service delivery in Nairobi District Land Registry.

Table 3: Coefficients of Overall Regression model

Model	Standardized Coefficients Beta	t	Sig.
(Constant)	0.163	1.894	.00
Technology	.700	.728	.00
Staff training	.373	1.838	.00

The study findings also indicated that Technology (X_2) had a coefficient of 0.700 which was greater than zero. The t statics was 0.728 which had a p-value of 0.0 which was less than 0.05 implied that the coefficient of X_4 was significant at 0.05 level of significance. This showed that Technology had a significant positive influence on service delivery in Nairobi District Land Registry.

SUMMARY

The findings from the staff training variable indicated that all the respondents agreed with descriptive statements that Information Technology (IT) skills were technical skills necessary to implement e-government and that service delivery was affected by motivation incentives given to the employees. Further, from the regression model the study

established that staff training was among the most significant variables that influenced the service delivery in Nairobi District Land Registry as shown by a beta coefficient of 0.373. Increasing levels of staff training by a unit would increase the levels of service delivery by 0.373. In this regard, these findings collaborated to the literature review by Adegboyega, Tomasz, Elsa and Irshad (2007), who stated that there is a positive relationship between staff training and service delivery.

The findings from Technology variable indicated that all the respondents agreed with descriptive statements that sought to determine the influence of technology on service delivery. The descriptive statements that sought to measure the whether Nairobi District Land Registry had the required level and standards of ICT infrastructure generated responses of agreements. The researcher noted that there was a weak agreement to the statement that the offices have enough infrastructure and modern looking equipment. Based on the findings from the regression model determined that technology was the most significant variables that influenced the service delivery in Nairobi District Land Registry as shown by a beta coefficient of 0.700. This findings depicted that changing a unit of technology affects service delivery by 70% therefore the research establishes that implementation of e-government cannot be actualized without technology.

CONCLUSIONS

The study concluded that the holistic representation from all the levels of management helped in gathering reliable data on the influence of e-government on service delivery in Nairobi District Land Registry. It also concluded the respondents had adequate working experience that assisted in providing reliable data on the study problem since they had technical experience on the problem being investigated by the study. The education level of the respondents demonstrated that most of the organization employees were qualified professionals with technical knowledge and skills on the study problem and thus provided the study with reliable information. Based on the above discussion the study concluded that the following study findings can be generalized to represent how e-government influences service delivery in other organizations both in manufacturing and service industries. It was also established that indicators of staff training which included skills and expertise , motivation, seminars and workshops to a great extent influence service delivery as shown by high positive beta coefficient from the regression model. Finally, technology was determined from the findings to be the most significant variable that affects service delivery through e-government systems. The study also concluded that public organization had adequate ICT infrastructure necessary for service delivery to the citizens.

RECOMMENDATIONS

The researcher recommended that organization should facilitate continuous and regular seminar and workshops on new technologies or systems being implemented to improve service delivery. The organization's culture and values need to reviewed and linked with the organization corporate strategy of electronic service provision. The study recommended that the government should invest in advanced technologies and modern ICT infrastructures to ensure efficient and quality service delivery to the citizens. Basic ICT infrastructure like power and connectivity, continuous technological up gradation and follow up is essential for spreading e-services; frequent training of the staff; employee motivation and rewards; regular monitoring and evaluation of the ICT Centre to ensure that they were operating as they should be as well as improving on the challenged areas; opening of more spread out branches to meet the demand function as well as full centralization of services ; assessing the skills of employees working at ICT Centre.

Areas for further research

Further research should be conducted to find out the other variables in e-government that affect service delivery. There is also need to conduct the research in the service sector to be able to establish whether the current study findings can be generalized to the service sector.

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