



FACTORS AFFECTING THE ADOPTION OF EMERGING ICT TECHNOLOGIES IN PUBLIC INSTITUTIONS IN KENYA: A CASE STUDY OF KENYA POWER COMPANY

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ABSTRACT

This study sought to establish the factors affecting the adoption of emerging ICT Technologies in public institutions in Kenya. The findings of the study would be significant to the Republic of Kenya, policymakers, scholars, and researchers. The study employed an explanatory research design since it examined the relationship between variables. The targeted population was 2000 employees working for KPLC headquarter comprising of 340 from the ICT department, 400 from customer service, 350 from finance, and 910 from the supply chain. Slovin's' formulae was used to get the actual sample size of the study, which was 96 respondents comprising of 16 from ICT department, 19 from customer service, 17 from finance, and 44 from the supply chain. A survey questionnaire was used for primary data collection. The data collected thereafter was analyzed using SPSS 20. Both descriptive and inferential statistics were used to analyze the data. Descriptive statistics generated frequency tables and descriptive summaries while inferential statistics (correlation analysis and multiple regressions) will determine the predictors of adoption of ICT. The findings of the study revealed that there exists a positive correlation between the cost of implementation; top management support; organizational culture, and government regulations and adoption of emerging ICT technologies. The study concluded that cost of implementation; top management support; organizational culture, and government regulations are some of the key factors that affect the adoption of emerging ICT technologies. However, the variables contributed only 47.1% of adoption of ICT; hence the need to carry further studies to determine other factors that affect the adoption of emerging ICT technologies. The study further recommended that further studies to be done in private institutions for comparison purposes.

Key Words: Cost of Implementation; Top Management Support; Organizational Culture; Government Regulations, ICT Adoption

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INTRODUCTION

Information Communication and Technology (ICT) means the integration of computing devices and telecommunication equipment which may include but not limited to telephone lines with wireless signals, computers and any accompanying software's to be used. The idea behind all this is to enable the users of the system to easily access, store, transmit and manipulate information. Information technology is often associated with data processing and information management of data through large scale information systems. ICT systems have enabled the development of new forms of work and organizations. In essence, it revolutionizes the approach of how we work in that it enables to have distributed work teams, mobile work, teleworking networking and outsourcing throughout companies around the globe (Andriessen, 2011).

According to Hooff (2012), the merging together of telecommunication and computing systems in Europe has radically changed and altered a number of aspects, especially the way we live and work. He notes that in today's work environment, an office without a personal computer is basically unthinkable, just in the same way that communication via email is also unthinkable. He further advises that technology, can, without doubt, offer an organization unexpected possibilities for innovation and only if adapted and used daily for critical processes within an organization.

In today's modern society, organizations across the globe are adopting new ICT technologies in order to become relevant and competitive while eliminating redundant processes and becoming much more efficient. Anette (2013) clearly informs us that the effect of ICT on our daily life is not a subject to be ignored, as it also does not require an explanation. She further notes that the use of ICT greatly promotes standardization.

Standardization reduces diversity and supports interoperability which plays a very important role in diffusing ICT uses.

In the last decade, entities across the African continent including governments, businesses, and social organizations have looked at different ways to harness the power of ICT. In order for them to greatly benefit from this, experts have advised that, in order for these institutions to put up effective and efficient ICT use, they must first be "e-Ready" in terms of ICT accessibility, infrastructure, legal and Government regulations and above all adequate computer skills (Klopper, 2012).

The unexpected expansion of ICT's in Kenya has suddenly created a sharp focus on the way in which they bring out development and reduce poverty amongst its population. In the last ten years, ICTs have been quite prominent in the Kenya government development agenda. The government views ICTs as a very important tool that can be used to deliver efficiency in the delivery of public services, as a productive sector in order to curb the challenges of the 21st century and fulfill the vision 2030 (Adera, 2014).

Statement of the Problem

According to Khachidze (2015), the adoption of ICT's greatly affects returns on investments. The inscription and the stabilization stages are mostly affected where gains or profits are commonly most expected. He also cites that the adoption cost of ICT was a great factor that greatly determined if the emergence of ICT would be adopted or not. The adoption of ICT's, according to Makhmudov (2014), may have some neutral effects on a workforce within organizations, However, it should clearly be noted that a firm adoption to various technologies that are available in the market does not automatically transform to higher efficiency and productivity per se, but it highly depends on the firm's ability

to leverage these technologies to have impacts (Li & YE, 2013). Results usually require an elapsed time of between 3 to 5 years (Brynjolfson, 2013).

In Europe, the post-1995 weak European Total factor productivity growth, through research carried out and document, was because of a result of its lagging behind in the adoption of ICT. New research has however indicated that its good performance after that period has a significant correlation between human capital and ICT investments (Mody, 2013). According to Bartelsman (2013), the way many firms experiment the markets, in the way they conduct their businesses, is very low in Germany as compared to the United States of America. He notes that this is basically due to many businesses changing to ICT.

In Africa, ICT in many countries is often embraced, resisted or subverted even though it's a tool that is used by millions of Africans in their day to day activities. As for Kenya, ICT adoption between 2005 and 2016 experienced an incredible increase in growth in the proportion of mobile subscriptions under the private sector. In many public institutions, however, the uptake of emerging ICT technologies has been slower than in the private sector. The company has not fully embraced technology in some key critical customer focused entities. Singh (2014) informs us that governments should adopt well-established standard, policies as well as technologies to eradicate redundancies. Therefore in conclusion, from an ICT Perspective, Kenya has a great potential to further ICT adoption together with other ICT development within both the Private and the Public sectors of its economy (Information Economy Report, 2007-08). Therefore the study sought to investigate the rate of adoption of emerging ICT technologies in public institutions.

Objectives of the Study

The general objective of the study was to establish the factors affecting the adoption of emerging ICT Technologies in public institutions in Kenya. The specific objectives were:-

- To determine how the cost of implementation affects the adoption of emerging ICT Technologies at Kenya power.
- To establish how top management support affects the adoption of emerging ICT Technologies at Kenya power.
- To find out how organizational culture hinders the adoption of emerging ICT Technologies at Kenya power.
- To examine how government regulations affects the adoption of emerging ICT Technologies at Kenya power.

LITERATURE REVIEW

Theoretical review

Technology adoption model

Technology adoption and usage have been an area of interest for both researchers and scholars for the last twenty years, where these researchers have mostly been having a keen interest toward examining the acceptance of technology in general. The Technology Adoption Model was one of the earliest models that were used to get more answers to most of these questions. According to Al-Suqri (2015), this model is ranked as one of the most important models within the technology research circles recently and it continues to be very crucial in the fields of information system designs.

This particular model per se removed any intermediate influence of attitude and suggested a direct link between the expected usefulness and the expected easy use of the technology, with considerations towards its adoption. The conclusive argument was that high level of expected usefulness and ease of the use of technology neutralized the likely outcome of a

negative attitude toward the adoption of that technology (Al-Suqri, 2015).

Theory of reasoned action

The theory of reasoned action was initially developed in the 1960s by Martin Fishbein in and later revised shortly thereafter, by two gentlemen by the names of Fischbein and Icek Azjen. In essence, this is a theory that mainly focuses on an individual's intention to act or behave in a manner. Fishbein (2013) asserts that with all due respect to any workforce within any organization, employee job satisfaction is the key determinant of excellent performance as well as other work-related behaviors. There is indeed a prominent assumption that satisfied employees led to greater productivity and vice-versa.

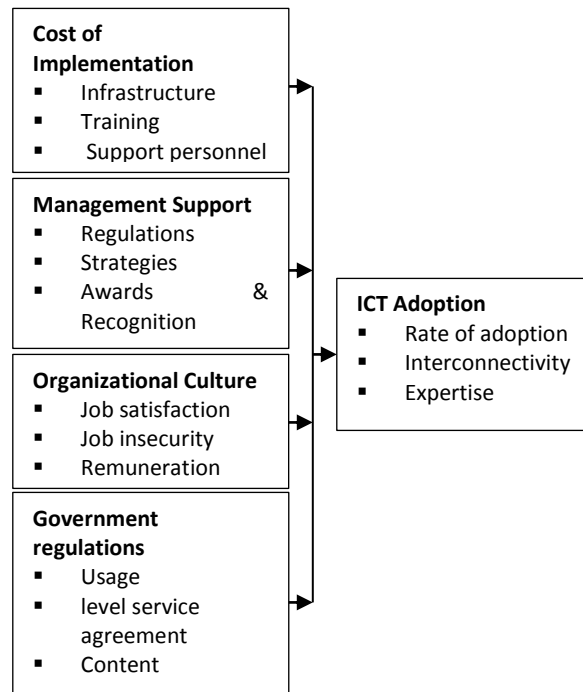
According to the theory of reasoned action, the important determinant of a behavior purely depends on the individual's intentions. As individuals premeditate their intentions, they are assumed to have put into account three independent considerations; that is, beliefs, expectations, and implementation of their intentions (Ajzen, 2012).

Classical model of diffusion theory

The Classical model of diffusion theory is also known as diffusion of innovations. This is primarily a theory that tries to clarify how, why, and at what rate new ideas and technology spread through organizations, cultures, and societies. According to Smith (2014) this model assumes that the diffusion starts from stage to stage until the intended innovation is either accepted and implemented or rejected. In the initial stage which is called the knowledge stage, where a potential adopter becomes aware of the innovation. The next stage is the persuasion stage, where the potential adopter socially interacts with trusted networks. The third stage encompasses decision making, and lastly the confirmation stage, where individuals or groups

carry out final evaluations to deduce whether the innovation meets their expectations.

Conceptual Framework



Independent Variables Dependent Variable

Figure 1: Conceptual Framework

Source: Author (2019)

Empirical review

Cost of Implementation and ICT Adoption

There are very many factors that are of utmost importance to consider when it comes to the adoption of ICT in any organizational setup. According to Sherif (2014), many organizations already using ICT have to consider cost because if not carefully thought about, may become a disastrous barrier in the long run. The cost of the adoption of technology, that may include equipment and the internet, has a strong relation in terms of ICT penetration. It is a known fact that costs of access to ICT, has been declining over time, it is also a known fact that high costs of use of technology negatively affects its adoption (Sideridis, 2015).

According to Stewart (2013), the main factors that are associated with and affect the cost of

much application software's that are used in many companies are the computer equipment configurations and performance and the associated characteristics of the software product. One of the most prominent issues across organizations in relation to the adoption of ICT is implementation in regard to related costs. These costs according to Khalil (2014) could be quite expensive depending on the latest of software's that are found on the market place. He further advises that other costs that organizations must consider include planning, requirements, customizing and re-customizing, training and reengineering costs.

Management Support and adoption of emerging ICT Technologies

All over the world, there have been numerous studies that have been carried out based on the relationship between management support and the adoption of ICT's in organizations. Most of the outcome revealed that there was a strong correlation between the two. Alkhalifa (2014) informs that the top management support, a strategic advantage as well as the size of the organization is the key three factors that determine the adoption of ICT. Many developing nations across the globe, Kenya included understanding the benefits of adopting ICT for development purposes in both the governmental and non-governmental institutions. According to Avgerou (2013), the adoption and use of ICT have ended up creating huge investments in the ICT infrastructure as well as enhance the launch of many e-government projects.

Both Internal and external organization expertise is very important when it comes to the adoption of ICT. Internal expertise essentially focuses more on what knowledge and understanding the owner of a business or the senior managers with an organization have about ICT during the first stage which is the adoption stage (Brychan, 2013). The internal knowledge is to ideally enable them to analyze the amount of knowledge that

they have internally in order to identify and source other knowledge out there that would be of benefit to the form. The external expertise on the hand according to Brychan (2015) refers to knowledge from outside the organizational structure. Such knowledge in most cases is considered to potentially limit the business development together with the intended adoption of ICT. It is argued that the acquisition of external knowledge should be carried out with the sole purpose of internalizing that knowledge. In other word, external and internal knowledge learning should be carried concurrently.

Organization Culture and ICT Adoption

ICT plays a vital role in the development of a country's economy, which in turn improves the livelihood of its population. This is achieved by the crucial role that ICT plays by providing important information, which thus improves the empowerment provided to these people together with their participation in socio-economic activities (Lechman, 2015). As for Mudacumura (2014) ICT applications in many developing countries like Kenya, there is always a great tendency of underutilizing and oversimplifying the adoption of this ICT's to merely the confines of computers and internet. She pressures that most of these applications instead should be spread to other important sectors like health, education, agriculture as well as e-government. She also advises that there was a need to escalate ICT's to the local communities and thus reduces the gap of creating unbalanced resource allocation.

In the Education sector, for instance, a reliable and dynamic learning based system is a prerequisite toward an ICT based transformation that leads an inclusive information society. Systems of such kind usually, in the long run, replace the traditional learning with textbooks with a practical approach where students are then able to learn, create and apply the acquired knowledge. On the same policies should also be

formulated that support this type of learning so that we get improved access to formal education, where the benefits are the realization of optimized resource allocation across all the sectors of the economy (Hanna, 2013).

Government Regulations and ICT Adoption

Tan (2008) informs us that, policies that are formulated need to be monitored and coordinated across national, regional and municipal level as it solely depends on their target goals and participants. Policies that may have a clause on ICT awareness and government's direct support are especially suited to be implemented at a national level, whereas as those that have an aim of improving the rates of ICT adoption, within low income areas in a largely populated area, may need to be customized to fit the needs of that population.

It is always very prudent to note that development of policies is a delicate process and requires a lot of consultations, as this will eventually influence the adoption of ICT in those countries. According to Gorp (2008), stakeholder involvement and participation, during the development of such policies promoted consensus and acceptance at the end. She further explained that their participation during the development process of the policies directly has a huge influence on the outcome on the design outcome as well as the adoption of the policy itself, because it creates and promotes the building of legitimacy and conflict resolution.

METHODOLOGY

This study adopted an explanatory research design which according to Firebaugh (2008), is carried out to discover and report the relationships between various aspects of the

phenomenon under study. Quantitative method was used (questionnaire) on factors affecting the adoption of ICT in public institutions in Kenya will be used in this study. The survey questionnaire was the primary collection tool that was used to gather information about individuals. The tool was generalized to ensure both reliability and validity. The target population of the study consisted of 2000 employees of Kenya Power Company. The primary and principal research apparatus used in this study to collect data was a questionnaire. The data collected from the respondents was cross-examined in order to ascertain its accuracy and identify the wrongly responded items from the respondents then entered into an SPSS 20 database for analysis. Both descriptive and inferential statistics were used to analyze the data. The following Multiple Regression Model was used in this study:

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

Where:

Y= ICT Adoption

B₀ = Constant

X₁ = cost of implementation

X₂ = Management support

X₃ = Organizational culture

X₄ = Government Regulations

ε = uncontrolled factors

FINDINGS

Technologies and level of adoption

The study sought to establish a list of emerging ICT technologies that had been adopted at Kenya power and lighting company and the level of adoption. The findings of the study were presented in Table 1. The results indicated that KPLC had adopted mobile technologies, cloud computing, A.I, Intelligence Apps; robotic process automation and Big data.

Table 1: Responses on Technologies & level of ICT adoptions

Technologies	Not Adopted	Somehow Adopted	Don't Know	Moderately Adopted	Highly Adopted	Mean	Standard Deviation
Mobile Technologies	0	0	0	30.7	69.3	4.6932	0.46382
Cloud computing	0	0	15.9	39.8	44.3	4.2841	0.72633
Artificial intelligence (A.I)	0	10.2	5.7	63.6	20.5	3.9432	0.82152
Intelligent Apps	0	0	0	30.7	69.3	4.6932	0.46382
Robotic Process Automation	0	8	8	19.3	64.8	4.4091	0.94244
Big data	0	0	0	47.7	52.3	4.5227	0.5235
Aggregate score						4.3428	0.6205

The level of adoption varied from one technology to the other. Apparently, the respondents had a different understanding of the level of adoption of each technology. The majority (69.3%) of the respondents indicated that mobile technology was highly adopted and 30.7% noted that mobile technologies had been moderately adopted. There were low variations as shown by a large mean score of 4.6932 and low standard deviation of 0.46382. Equally, 69.3% of the respondents noted that intelligent Apps had been highly adopted while 30.7% indicated that intelligent Apps had been moderately adopted. Concerning cloud computing, most of the respondents indicated that it was adopted. While 44.3% indicated that cloud computing was highly adopted, 39.8% noted that it had been moderately adopted, and 15.9% indicated that

they were not sure. The variation was also relatively low as shown by a higher mean of 4.281 and a slightly higher standard deviation of 0.72633.

The majority (63.6%) indicated that Artificial intelligence had been moderately adopted and 20.5% stated that AI had been highly adopted. However, 10.2% indicated that AI was somewhat adopted and 5.7% were not aware. The findings clearly indicated that Emerging ICT technologies are being adopted by businesses to enhance their business operations, which was in line with findings by Papp (2014), who noted that businesses have recognized a need for Information Technology and Information Systems functions, that fully support business processes and strategies that will also provide new services to its market and clients.

Cost of Implementation

Table 2: Responses on Cost of Implementation ICT technologies

Cost of Implementation	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation
Kenya Power has sufficient funds to implement an ICT infrastructure.	0	0	0	34.1	65.9	4.6591	0.47673
All employees in my department are furnished with a computer or laptop	0	0	0	30.7	69.3	4.6932	0.46382
The management has requisite information on future-oriented cost management on ICT Implementation	0	0	11.4	29.5	59.1	4.4773	0.69443

The company is willing to cater for 8 additional cost for training staff on ICT	8	15.9	22.7	45.5	8	3.2955	1.08447
Kenya Power has funds to hire and sustain ICT personnel	0	0	0	53.4	46.6	4.4659	0.50170
Kenya Power has funds to acquire the necessary ICT software to run various applications being used.	0	0	0	53.6	46.6	4.4659	0.50170
Aggregate scores						4.3428	0.6205

The aggregate scores showed a high means score of 4.3428 and a higher standard deviation of 0.6205. This implied that there are low variations in participant's responses. All respondents indicated that Kenya Power has sufficient funds to implement an ICT infrastructure, with 65.9% strongly agreeing and the rest 34.1 % agreeing. On the same note, the majority (69.3%) strongly agreed and 30.7% agreed that all employees in my department were furnished with a computer or laptop. The majority of the respondents (59.1%) strongly agreed and 29.5 agreed that the management had requisite information on future-oriented cost management on ICT Implementation. However, 11.4% neither agreed nor disagreed.

Concerning the Company's willing to cater for additional cost for training staff on ICT, the responses were varied as shown by a relatively lower mean score of 3.2955 and high variations of 1.08447. The majority of the responses (45.5%) agreed, 8% strongly agreed, 22.7% remained neutral, 15.9 % disagreed, and 8% strongly agreed

that the Company is willing to cater for additional cost for training staff on ICT. On the other hand, concerning whether Kenya Power had funds to hire and sustain ICT personnel and whether it had funds to acquire the necessary ICT software to run various applications being used, the variations were minimal since all respondents were in agreement as presented by a high mean score of 4.4659 and a standard deviations of 0.50170; while the majority 53.6% agreed, the rest 46.6% strongly agreed that indeed Kenya Power had funds to hire and sustain ICT personnel and has funds to acquire the necessary ICT software to run various applications being used. The findings clearly showed that Kenya Power Company has the capacity to meet most of the costs of implementation of emerging ICT Technologies. Just like other companies, Kenya power was ready to meet the cost of implementing ICTs. It had provided the required resources including personnel and computer equipment which according to Stewart (2013), is one of the main factors required in the adoption of ICT technology.

Management Support

Table 3: Responses on Management Support to ICT adoption

Management Support	Highly Dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied	Mean	Standard Deviation
Management support in ICT adoption	0	0	0	30.7	69.3	4.6932	0.46382
ICT policies and regulations of the organization	0	0	4.5	62.5	33	4.2841	0.5456

Strategies aimed at delivering a reliable infrastructure	0	0	0	39.8	60.2	4.6023	0.49223
Promotion of ICT staff based on merits	22.7	23.9	15.9	23.9	13.6	2.8182	1.38585
Awards and recognition of ICT staff	22.7	23.9	15.9	23.9	13.6	2.8182	1.38585
Aggregate scores						3.843	0.9319

The findings on management support varied responses as shown by a slightly low mean score 3.843 and higher standard deviation of 0.9319. All respondents expressed their satisfaction with the management support in ICT adoption with the majority (69.3%) indicating that there were highly satisfied and the rest 30.7% indicating that they were indeed satisfied with how the management support ICT adoption in the company. Concerning the ICT policies and regulations of the organization and strategies aimed at delivering a reliable infrastructure, all respondents showed satisfaction. This is an indication that Kenya power had taken the adoption of ICT as their strategy. The importance

of getting support from the management in adopting ICT is evident in Kenya Power and was in line with Alkhalifa (2014) who noted that the top management support is one of the factors that determine the adoption of ICT.

However, a great variation was shown concerning the issues of promotion of ICT staff on merit basis and award and recognition of ICT staff. The majority (23.9%) was dissatisfied and 22.7% were highly dissatisfied with how the promotion of ICT staff was being done. While 15.9% were neutral, 23.9% were satisfied and 13.9% highly satisfied with the way promotion and award of recognition of ICT staff were being handled at Kenya Power Company.

Organizational Culture

Table 4: Responses on organizational culture that enhance ICT adoption

Organization Culture	Highly Dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied	Mean	Standard Deviation
Job Satisfaction	11.4	13.6	0	51.1	23.9	3.6250	1.29821
The level of Remuneration	3.4	5.7	0	62.5	28.4	4.0682	0.90713
Availability of safe working conditions	0	0	0	46.6	53.4	4.5341	0.50170
Career and professional development	0	0	0	30.7	69.3	4.6932	0.46382
Employment security	0	0	0	30.7	69.3	4.6932	0.46382
Aggregate scores						4.323	0.727

Table 4 showed a high aggregate mean score of 4.323 and slightly high standard deviation of 0.727. This was as a result of higher variation on responses about job satisfaction and the level of remuneration. The majority of the respondents (51.1%) were satisfied and 23.9% were highly satisfied with their job. However, 11.4% indicated

that they were highly dissatisfied while the rest 13.6% were dissatisfied with their job. Similarly, the majority (62.5%) was satisfied and 28.4% highly satisfied with the level of remuneration, but 3.4% were highly dissatisfied and 5.7% were dissatisfied.

Government Regulations

Table 5: Responses on Government Regulation of ICT adoption

Government Regulations	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation
ICT policies adopted by the government aim at improving the quality of services and products offered by Kenya Power	0	0	0	23.9	76.1	4.7614	0.42869
ICT policies adopted encourage innovations in technology development, use of technology and general workflows	0	0	0	39.8	60.2	4.6023	0.49223
ICT policies adopted aim at identifying priority areas for ICT development i.e. areas that will have the greatest impacts	12.5	11.4	22.7	40.9	12.5	3.2955	1.20496
The government monitors ICT usage at Kenya Power so as to avoid exploitation of citizens using technology	0	0	23.9	46.6	29.5	4.0568	0.73278
Everyday Kenya Power strives to see through its service-level agreement	0	0	0	26.1	73.9	4.7386	0.44190
Aggregate scores						4.9209	0.6601

Table 5 showed a higher aggregate mean score of 4.9209 and low standard deviations of 0.6601. This implies low variations on responses on government regulations. The majority of the respondents (76.1%) strongly agreed and 23.9% agreed that ICT policies adopted by the government aimed at improving the quality of services and products offered by Kenya Power. Concerning whether ICT policies adopted encourage innovations in technology development, use of technology and general workflows, the majority (60.2%) strongly agreed and 39.8% agreed.

However, there was great variation in responses concerning whether ICT policies adopted aimed

at identifying priority areas for ICT development i.e. areas that would have the greatest impacts. The majority (40.9%) agreed and 12.5% highly agreed. On the other hand, 12.5% strongly disagreed, 11.4% disagreed while 22.7% neither agreed nor disagreed. The high variations were shown by a relatively low mean score of 3.2955 and a higher standard deviation of 1.20496. A majority of 46.6% agreed, 29.5% strongly agreed, while 23.9% neither agreed nor disagreed that the government monitors ICT usage at Kenya Power so as to avoid exploitation of citizens using technology. Finally, the majority of the respondents (73.9%) strongly agreed and 26.1% agreed that every day, Kenya Power strives to see through its service-level agreement.

ICT adoption

Table 6: Responses on ICT Adoption

ICT adoption	Highly Dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied	Mean	Standard Deviation
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Computer connectivity to the internet for the efficient delivery of services	0	0	0	18.2	81.8	4.8182	0.38790
The rate of ICT Adoption at Kenya Power	0	0	0	37.5	62.5	4.6250	0.48690
Management support in the adoption of ICT	0	0	0	29.5	70.5	4.7045	0.45886
The frequency of ICT upgrade	5.7	4.5	8	27.3	54.5	4.2045	1.13623
Availability of expertise	0	0	0	29.5	70.5	4.7045	0.45886
Aggregate scores						4.611	0.5858

Table 6 present a high means scores of 4.611 and a low standard deviation of 0.5858. This is an indication of low variation in most of the participant responses. The majority of the respondents (81.8%) were highly satisfied and 18.2% were satisfied with the current computer connectivity to the internet for the efficient delivery of services. All respondents were satisfied with the rate of ICT Adoption at Kenya Power with the majority (62.5%) being highly satisfied and 37.5% being satisfied.

Concerning Management support in the adoption of ICT, all the respondents expressed their satisfaction. The majority (70.5%) was highly satisfied and 29.5% were satisfied. However, there was a great variation in responses to the frequency of ICT upgrade. The majority (54.7 %) was highly satisfied, 27.3% were satisfied, 8% were neutral, while 4.5% were dissatisfied and 5.7 highly dissatisfied. Concerning the availability of expertise in the company, all respondents expressed their satisfaction. While 70.5% were highly satisfied, 29.5% were satisfied.

The study also sought to establish the respondent's opinion concerning the relationship between the variables of the study. The results showing a high aggregate mean score of 4.6676 and a low standard deviation of 0.4666. This implies that there was less variation in responses. The majority (58%) strongly agreed and 42% agreed that the cost of implementation is a determining factor in the adoption of emerging ICT Technologies. The majority of the respondents (61.4%) strongly agreed and 38.6 % agreed that the support from the top management influence the adoption of emerging ICT Technologies. The majority (77.3%) strongly agreed and 22.7% agreed that the organizational culture influences the adoption of emerging ICT Technologies. Finally, the majority (70.5%) strongly agreed and 29.5% agreed that Government Regulations influence the adoption of emerging ICT Technologies.

Table 7: Responses on the relationship between variables

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Means	Standard Deviation
The cost of implementation is a determining factor in the adoption of emerging ICT Technologies	0	0	0	42	58	4.5795	0.49646
The support from the top management influence the adoption of emerging ICT Technologies	0	0	0	38.6	61.4	4.6136	0.48971
The organizational culture influence the adoption of emerging ICT Technologies	0	0	0	22.7	77.3	4.7727	0.42147

Government Regulations influence the adoption of emerging ICT Technologies	0	0	0	29.5	70.5	4.7045	0.45886
Aggregate scores						4.6676	0.4666

Inferential Statistics

Table 8: Correlation Matrix

		ICTA	IC	MS	OC	GR
ICTA	Pearson Correlation	1	.341**	.221*	.479**	.524**
	Sig. (2-tailed)		.001	.039	.000	.000
	N	88	88	88	88	88
IC	Pearson Correlation	.341**	1	.224*	.263*	.339**
	Sig. (2-tailed)	.001		.036	.013	.001
	N	88	88	88	88	88
MS	Pearson Correlation	.221*	.224*	1	-.182	.287**
	Sig. (2-tailed)	.039	.036		.089	.007
	N	88	88	88	88	88
OC	Pearson Correlation	.479**	.263*	-.182	1	.152
	Sig. (2-tailed)	.000	.013	.089		.156
	N	88	88	88	88	88
GR	Pearson Correlation	.524**	.339**	.287**	.152	1
	Sig. (2-tailed)	.000	.001	.007	.156	
	N	88	88	88	88	88

Key: ICTA= ICT adoption; IC= Cost of implementation; MS= Top management support; OC= Organizational culture; and GR= Government Regulations

Table 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.686 ^a	.471	.445	2.59716

Table 10: Analysis of Valiance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	497.600	4	124.400	18.443	.000 ^b
	Residual	559.855	83	6.745		
	Total	1057.455	87			

Table 11: Coefficient of determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.096	4.939		.222	.825
	IC	.082	.132		.055	.623
	MS	.208	.103		.177	2.014
	OC	.636	.126		.438	5.063
	GR	.967	.220		.387	4.399

A multiple regression analysis was also conducted to examine the relations between the dependent variable (adoption of emerging ICT technologies) and dependent variables (cost of implementation; top management support; organizational culture, and government regulations). Based on the SPSS generable table, the equation

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

Becomes;

$$Y = 1.096 + 0.082X_1 + 0.208X_2 + 0.636X_3 + 0.967X_4$$

As shown in the regression equation, when all factors (cost of implementation; top management support; organizational culture, and government regulations) are held constant at zero, adoption of emerging ICT technologies would be 1.096. The findings also revealed that when all other independent variables at zero, a unit increase in the cost of implementation would lead to a 0.082 increase in adoption of emerging ICT technologies; a unit increase in top management support would result in 0.208 increase in adoption of emerging ICT technologies; a unit increase in organizational culture would lead to a 0.636 increase in adoption of emerging ICT technologies; and a unit increase in government regulation would lead to 0.967 increase in adoption of emerging ICT technologies. This means that government regulation contributes most to the adoption of emerging ICT technologies; followed by organizational culture; management support and finally cost of implementation. From the findings, it is clear that government regulations are crucial for the adoption of emerging ICT technologies in public institution. The findings imply that Government regulations and organizational culture are the most significant variables followed by management support while the cost of implementation is the least significant variable.

CONCLUSIONS

The adoption of emerging ICT technologies is crucial for social economic development of any country. Any institution that does not embrace ICT technologies is bound to be left behind and may fail to take advantage of opportunities that come with technology advancement. Based on the findings, the following are the conclusions.

It was found that Kenya Power and Lighting Company is well endowed with resources that facilitate the effective adoption of ICT technologies. Therefore, the study concludes that public institution has no problems catering to the cost of implementing ICT technologies since they are adequately funded by the government. It was also found that there is a positive correlation between the cost of implementation and adoption of emerging ICT technologies at KPLC. There, the study concludes that the availability and effective management of resources are important for adoption if the ICT technologies.

The findings revealed that the top management of KPLC was very supportive of initiatives to adopt emerging ICT technologies. It was also found that there is a positive correlation between management support and adoption of ICT technologies. However, it was clear that there is no transparency in the promotion, awarding, and recognition of ICT staff. The study concludes that the top management at KPLC has not utilized all the potential to adopt and use ICT technology. This is because there are still dissatisfied staffs in the ICT department

The study found that most employees of KPLC were satisfied with most aspects of organizational culture but some of them were dissatisfied with the level of remuneration; hence lack job satisfaction. Therefore, the study concludes that not all employees are motivated at KPLC and that there could be unequal remuneration depending on the job description. It was also found that there is a positive and significant correlation

between organizational culture and adoption of ICT technologies.

In addition, the study found that government regulation contributes not only to the adoption of ICT, but also encourages innovations that lead to technological development. Therefore, the study concludes that government regulation enhanced creativity and innovation which leads to the development of new technologies rather than just adopting those that are already made. Finally, the study concludes that the cost of implementation; top management support; organizational culture, and government regulations are key factors that influence the adoption of emerging ICT technologies in public institutions.

RECOMMENDATIONS

The public and private institutions can benefit from the findings of this study. The recommendations are presented based on the conclusions of the study. They can be generalized to other public institutions besides KPLC. The study concluded that public institution has no problems catering to the cost of implementing ICT technologies since they are adequately funded by the government. It is, therefore, recommended that the resources are efficiently used to not only to facilitate implementation of

emerging technologies but also enhancing creativity within the institutions.

The study concluded that the top management at KPLC has not utilized all the potential to adopt and use ICT technology. It was also concluded that not all employees are motivated at KPLC and that there could be unequal remuneration depending on the job description. This is because there are still dissatisfied staffs in the ICT department. To attain its full potential; it is recommended that KPLC should strive to motivate its entire staff especially those working in the ICT department. This would help with more adoption as well as innovations

Areas for further studies

Although the study found that there is a positive correlation between the cost of implementation; top management support; organizational culture, and government regulations and adoption of emerging ICT technologies; the four variables contribute only 47.1% of adoption of ICT. Therefore, it is recommended that further studies are conducted to determine other key factors that affect the adoption of ICT technologies. Besides, this study was conducted in a public institution. It was, therefore, recommended that further studies are done in private institutions for comparison purposes.

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