INFLUENCE OF ICT ON KNOWLEDGE SHARING IN STATE CORPORATIONS IN KENYA: A CASE OF THE KENYA NATIONAL LIBRARY SERVICE

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ABSTRACT

Knowledge Sharing is a complex and key activity for State Corporations. This study argues Knowledge Sharing as a catalyst to employee's productivity and sustainable economic growth towards a knowledge-based economy. This study accentuated the role of Information Communication Technology (ICT) in Knowledge Sharing by assessing its influence on Knowledge Sharing in State Corporations in Kenya with reference to the Kenya National Library Service. Specifically influence of ICT tools, ICT infrastructure, ICT skill and ICT structure in Knowledge Sharing was reviewed and analyzed. The results of the study statistically significantly indicated that 65.2% of any positive change in knowledge sharing in state corporations in Kenya can be attributed to ICT. Precisely, ICT tools was found to explain 70.1% of positive variability in Knowledge sharing, ICT infrastructure 89.40%, ICT skills 87.3% while structural aspects of ICT, were found to significantly affect 97.2% of variability in Knowledge sharing. The study recommends development of an integrated ICT and Knowledge sharing policy framework and increased ICT investment to entrench Collaborative Knowledge Sharing in State Corporations in Kenya.

Key Words: *Knowledge Sharing, ICT tools, ICT infrastructure, ICT Structure, ICT skills, State Corporations, Kenya*

INTRODUCTION

Knowledge Sharing is an interactive practice of disseminating veracious knowledge, to the right people at the right time, in an intelligible way that allows them to act prudently and to enrich the organization's knowledge base. Jackson et al. (2006) asserts that Knowledge Sharing is the fundamental way through which employees can contribute to knowledge application, innovation, and to the competitive advantage of an organization. In knowledge-based economy, Knowledge Sharing is arguably the most critical process to employee's performance and organizational effectiveness (Quigley et al., 2007). Knowledge Sharing has for this reason been a key managerial aspect in many government organizations. This notwithstanding, knowledge sharing according to Lin et al. (2008) is and has been very challenging in public sector because of two main reasons. First, tacitly held knowledge, is naturally hard to transfer and secondly Knowledge Sharing is to a great extent voluntary (Lin et al., 2008). Thus, the ability of state corporations to use technology to effectively share their knowledge is a strategic function. However, as Ardichvili (2008) asserts, inappropriate or incompatible ICTs is a major knowledge sharing barrier. Reluctance of employee's in use technology to accelerate Knowledge Sharing in Public Sector is a major contributor of poor public services (Santos et al., 2012, Sandhu et al., 2011). Assessing the Influence of ICT in Knowledge Sharing in Public Sector is therefore key to all state corporations in Kenya.

In Kenya, demand for more efficient and effective delivery of services has increased over recent years. In response to this, and in line with trends in other developing countries, Kenya

has embraced the public sector reforms invigorated by the Public Knowledge Management school of thought. This is manifested in Kenya Vision 2030 which is the country's development blueprint. The Kenya Vision 2030, envisions Kenya as a knowledge-based economy; that is highly reliant on effective Knowledge Sharing and management practices (Kenya Vision 2030, 2014). The Kenya Vision 2030, articulates knowledge creation and management as the fundamental aspect of growth and competitiveness in the Kenyan economy. It further asserts that measures need to be devised in public service to allow better Knowledge Sharing and dissemination especially on public sector reforms. This amplifies the inexorable role and need for effective Knowledge Sharing in development of Kenya's economy and specifically in public sector. State Corporations in Kenya are huge repositories of knowledge that is vital to them and to the country. To enhance service delivery, State Corporations must make the best use of ICT to facilitate effective Knowledge Sharing among government employees, within and across State Corporations.

ICT integration in library and information services is key and strategic agenda for Kenya National Library Service. ICT at KNLS does not only provide infrastructural platform for information sharing, it is the driver and catalyst for growth in the knowledge creation and dissemination to the general public. The paper aims at inquiring into the influence of ICT on Knowledge Sharing in State Corporations in Kenya with reference to Kenya National Library Service (knls).

STATEMENT OF THE PROBLEM

In this time of economic stress in Kenya, the government is focused on sidestepping worst-case scenarios of the global financial crisis while guaranteeing sustainable economic growth and development levels. To double up in these efforts, the government's best option is to transform Kenya's economy through knowledge driven approaches to create a knowledge-based economy as envisioned in Kenya's vision 2030. The success of a knowledge-based economy depends largely on the ability to effectively and efficiently create, use and share Knowledge. Keyes (2012), estimates that an organization with 1,000 workers can easily incur a cost of more than USD 6 million per year in lost productivity as a result of employee's failure to find existing knowledge and re-create knowledge that was available but could not be found. Keyes (2012) further observes that averagely 6% of revenue, is possibly lost from failure to exploit available knowledge.

The International Monetary Fund reveals that in Kenya, there is lack of institutionalization and promotion of efficient use of existing knowledge in Public Service (International Monetary Fund, 2010). According to Kenya Bureau of statistics, there are over 2,127, 700 government employees in Kenya working in different State Corporations (Kenya Bureau of statistics, 2013). This is a red-light indicator that the government could be losing billions of money annually in lost productivity through ineffective Knowledge Sharing frameworks. This study is premised on determining the influence of ICT on effective Knowledge Sharing in State Corporations with aim to improve on Knowledge Sharing in state corporations. This

will add value to public knowledge management as envisioned in Kenya's vision 2030. The findings of this study will guide State Corporations in embracing technology to effectively Share Knowledge.

OBJECTIVE OF THE STUDY

The main objective of this study was to assess the influence of ICT on Knowledge Sharing in State Corporations in Kenya with reference to the Kenya National Library service. Specifically the study sought to:

1. To investigate the effect of ICT tools on Knowledge Sharing in State Corporations in Kenya
2. To examine the influence of ICT Infrastructure on Knowledge Sharing in State Corporations in Kenya
3. To determine the influence of ICT skills on Knowledge Sharing in State Corporations in Kenya.
4. To establish the effect of ICT structure on Knowledge Sharing in State Corporations in Kenya

THEORETICAL REVIEW

Research studies on Knowledge Sharing has educed upon a number of theories such as Social Capital Theory, Adaptive Structuration Theory (AST) and Unified Theory of Acceptance and Use of Technology (UTAUT).

Social Capital Theory

Wang and Noe (2010) asserts that a number of researchers in Knowledge sharing used Social Capital theory to assess the role of various skills in knowledge sharing. According to Mu, et al. (2008) Knowledge Sharing cannot be induced by any form of coercion since it is a social process enabled by social capital. For Chua (2002), social interaction improves the quality of knowledge shared in an organization. In its implication for this study, ICT skills forms essential part of Social Capital that is key for Knowledge sharing in organizations. This well-articulated by Mark et al. (2006), who asserts that social capital not only comprises knowledge in form of trust, norms rules and beliefs but also the capacity to learn either individually or collectively in networks. In corroboration, Bolino, et al. (2002) asserts that Knowledge sharing is effective in a network where there is mutual trust and members interact more frequently. Mark, et al. (2006) further argues that learning and sharing knowledge through such Networks, Online Conferences and Meetings, Focus Groups, Social Networks among others is the most important form of social capital. Social Capital theory greatly informs this study in determining the influence of ICT skills in Knowledge sharing.
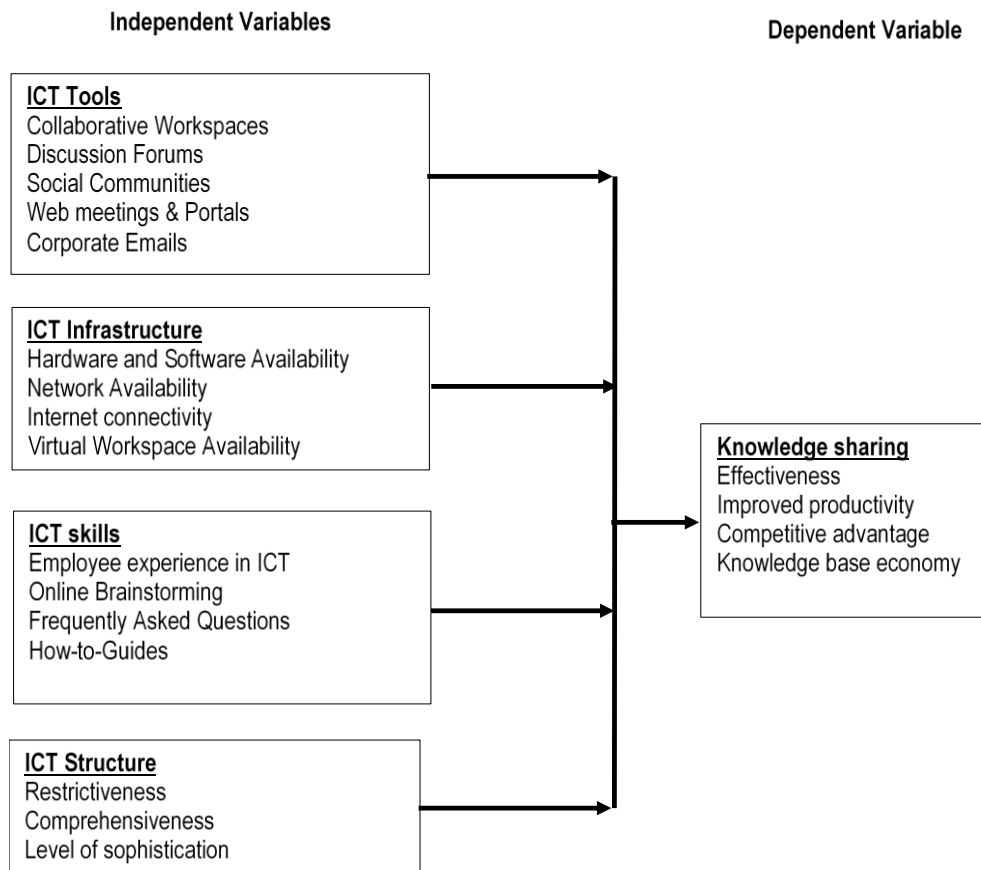
Adaptive Structuration Theory (AST)

Research studies on influence of ICT has increasingly applied the structuration theory (Chatterjee et al., 2002, Salisbury et al., 2002). DeSanctis and Poole (1994) explains how adoption of ICT works in line with existing organization structures to realize innovative use of technology and achieve the desired outcomes. DeSanctis and Poole (1994) argues that AST acumens on structuration leads to enhanced technology structures with productive adaptations. On this foundation, the study seeks to establish the effect of ICT structure on Knowledge Sharing in State Corporations in Kenya. AST particularly not only elaborate how user's experience with ICT yields innovative use but also throws a challenge for organizations in this case State Corporations to establish communal structures-in-use for Knowledge Sharing. This is informed by the fact that in most organizations, Knowledge sharing technologies' adopted by a certain group differs from another (DeSanctis & Poole, 1994). It is important then that users utilize the adopted Knowledge sharing structures to achieve better results in Knowledge sharing. Social presence structure is a major component of AST that affects how a specific technology is chosen and implemented. In assessing the impact of ICT structure on Knowledge sharing in state Corporations in Kenya, how the users utilize ICT in social interaction and how the existing ICT structure affects its adoption will be analyzed. Specifically how restrictiveness, level of sophistication and comprehensiveness of ICT structure (DeSanctis & Poole, 1994), affects social interaction (Knowledge Sharing).

Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) as described by Venkatesh et al. (2012), is the most widely applied theory to assess the use of technology. According Venkatesh et al. (2012), the extent to which technology will provide benefits (Performance Expectancy); extent of ease as result of use of ICT (Effort Expectancy); Social Influence by others and Facilitating Conditions are constructs of UTAUT that define effects/intention of technology use. Today in Kenya, Government is investing heavily on ICT infrastructure in State Corporation to improve the performance of these Corporations and minimize the effort required to accomplish such results. UTAUT will be applied in assessing the influence of ICT tools and Infrastructure. Specifically the study will determine on the basis of Performance Expectancy, Effort Expectancy and Social influence whether ICT tools and ICT Infrastructure influences Knowledge Sharing in State Corporations in Kenya. Venkatesh et al. (2012) posited age, gender, and experience as moderators of other constructs of UTAUT. This study will also adopt these moderators in analyzing the data collected.

CONCEPTUAL FRAMEWORK

Conceptual framework is a brief depiction of the phenomenon being studied normal represented in a diagrammatical way to show the major variables of the study (Mugenda, 2008). For this study, the conceptual framework sketched together the research variables and demonstrated relationship between independent variables and the dependent variable

Independent Variables

Dependent Variable

ICT Tools
Collaborative Workspaces
Discussion Forums
Social Communities
Web meetings & Portals
Corporate Emails

ICT Infrastructure
Hardware and Software Availability
Network Availability
Internet connectivity
Virtual Workspace Availability

Knowledge sharing
Effectiveness
Improved productivity
Competitive advantage
Knowledge base economy

ICT skills
Employee experience in ICT
Online Brainstorming
Frequently Asked Questions
How-to-Guides

ICT Structure
Restrictiveness
Comprehensiveness
Level of sophistication

EMPIRICAL REVIEW

Empirically, various authors have shown that various ICT elements greatly influence knowledge sharing. Masa'deh et al. (2013) revealed that ICT is positively and significantly correlated with knowledge sharing capability. In corroboration, Jelena et al. (2012) strongly suggests that ICT has positive impact in knowledge sharing practices. Jelena et al. (2012) empirically proved that besides the fact Knowledge Management heavily relies on ICT, many organizations including state corporations experience difficulties using ICT in Knowledge Management. According to Kanaan et al.(2013), there is statistically significant impact of ICT in enabling Knowledge Sharing. Kanaan et al. (2013), corroborates (Lin, 2007) findings that ICT among other enablers are instruments of furthering organizational learning and accelerates knowledge sharing within and across organizations. In a study to empirically test the influence of different knowledge sharing mechanisms, Sáenz et al. (2012) found out that ICTs such blogs, intranets knowledge repositories and discussion forums play a major facilitating role in Knowledge Sharing. Omona et al. (2012) conducted an empirical assessment on enhancing Knowledge Management with ICT and found out that for Knowledge sharing and management to succeed, ICT infrastructure and support must be reliable to enable diversity in Knowledge Sharing applications. He further found out that use of appropriate ICT skills in Knowledge Management enables organization to transform to

learning organization. The study revealed that ICT is key in stepping up knowledge access through collaboration and managing organizational knowledge as an asset.

ICT tools

According to Sulisworo (2012), creating and sharing knowledge via web-based ICT tools enables its fast replication for future wellbeing. Palvalin et al. (2013) and Bettiol et al. (2012) corroborates this when they observed that ICT tools aids efficient information processing and communication. Perhaps, to Nooshinfard and Nemati-Anaraki (2012), ICT tools can accelerate Knowledge Sharing in government organizations and government support in policy making, can play a crucial role in betterment of Knowledge Sharing. Ofori-Dwumfuo and Kommey (2013) opined that ICT tools can be used for gathering, documentation, storage and preservation of knowledge. This implies that besides facilitating Knowledge Sharing now, ICT tools can safeguard knowledge for future use and sharing. Ghani (2009) purposively observes that ICT Tools can be those that provide access to explicit knowledge; those that are for semantic mapping and for knowledge presentation and analysis; those for knowledge extraction and data mining; those for expertise localization and quick location of the knowledge holders and those for collaboration that enable global Knowledge Sharing. Ghani (2009) view presents a wide range of need and use for ICT tools in Knowledge Sharing.

ICT Infrastructure

Lindner and Wald (2011) believes that besides ICT infrastructure being a key factor of knowledge management, it has in most cases been underestimated even in previous research. According to Toro and Joshi (2013) and Quadri (2012), good ICT infrastructure is an inevitable precondition for any successful knowledge management practice in an organization. Bwalya (2009) contends that any country that intends to promote knowledge and shift towards a knowledge-based economy should have a well-defined ICT infrastructure and that ICT infrastructure is important in ensuring easy and near-costless sharing of information in this knowledge age. This supports Susana et al. (2009) view that organizations should be aware of the potential that ICT has for favoring the development of more decentralized and flexible structures that ultimately facilitate the processes of Knowledge Sharing. Regarding influence, Susana et al. (2009) argued that existence of Mechanisms (ICT infrastructure) that spread information throughout the whole firm helps decentralize decision-making power and initiative. Batawel and Alsuraihi (2013) observed that an adequate ICT infrastructure is of paramount importance in creating, sharing and applying knowledge in organization and therefore sees ICT infrastructure as an enabler and a perfect solution to Knowledge Sharing. However, according to Mohamed et al. (2010), for ICT infrastructure to be translated into meaningful returns, organizations must espouse knowledge-oriented ICT infrastructure as substantiated by ICT's role in decision making and Knowledge Sharing. Omona et al. (2012) believes that ICT infrastructure must be robust and

reliable to enable the provision of a multiplicity of Knowledge Sharing applications and services in order to meet customer needs, more so in respect to efficiencies and timeliness.

ICT Skills

Various literature refers to ICT skills differently. Quadri (2012) refer to this factor as ICT skills, Susana et al. (2009) as IT competency. Zawiyah and Mohd (2009) refers it as ICT know-how same as Noor and Salim (2011). While this study adopts ICT skills, in implication ICT know-how and ICT competency are inferred and will interchangeably be used. Susana et al. (2009), observes that IT revolution has facilitated the processes of searching and sharing knowledge, but at the same time ICT has led to an important growth in information. Quadri (2012) point out that ICT know-how is a pre-requisite for Knowledge Sharing and sufficient ICT skill is essential for the successful application of Knowledge in State Corporations. The ability of information officers especially the government employees, to transmit this information has tremendous influence the storage, retrieval, and sharing of knowledge in their places of work. Susana et al. (2009) corroborates that IT competency influences Knowledge Sharing directly, favoring its processes and indirectly by favoring the development of an organizational structure that in turn favors Knowledge Sharing. Bataweel & Alsuraihi (2013) claims that Knowledge Sharing in an organization is enabled by and through adequate technology and people who possess knowledge and know how to use it. To shed more light on this, Bataweel & Alsuraihi (2013) underscores teaching, guiding, and coaching users to utilize existing ICTs to interact, communicate and share knowledge.

ICT Structure

DeSanctis & Poole (1994) identifies three structural features of ICTs that affects their use as restrictiveness, comprehensiveness and level of sophistication. Restrictiveness is described as the level of limits imposed on users by the ICTs. In this study, this implies that the more restrictive the ICTs are, the less possible the usage of the ICT in Knowledge sharing and the less the amount of knowledge shared. Comprehensiveness is the productivity of the ICT. In Knowledge sharing, the more comprehensive the ICT, the greater the number of features available for use by users and by implication the greater the knowledge sharing options. Sophisticated systems are less adaptable to use by the users. In context of knowledge sharing, adaptivity means the ability of systems to change the rules, structures and contents of the social community. Zhang et al. (2006) posits that structural properties of various ICTs including restrictiveness, sophistication, and comprehensiveness affects the Knowledge management systems. Zhang et al. (2006) further adds that alignment of ICT structure with the organization structure greatly improves Knowledge sharing in these organization.

RESEARCH METHODOLOGY

Research design

In Orodho (2003) and Ogula (2005) it is ascertained that research design is the scheme, structure, outline, plan or strategy of investigation used to give answers to the research questions. This study aimed to establish and describe the influences of ICT on Knowledge Sharing and as such the research adopted a descriptive research design. This is informed by Mugenda and Mugenda (2008) and Creswell (2003) argument that descriptive research design seeks to obtain information that describes existing phenomena as-is by seeking respondents' perceptions, attitude, behaviour or values. Mugenda and Mugenda (2008) further adds that descriptive approach uses a pre-planned design for analysis that allows research findings to be presented through simple statistics such as tables and measures of central tendency can be used. Kothari (2008) in recapitulation asserts that descriptive design has enough provision for protection of bias and maximization of reliability.

Study Population

Population is defined as the entire group of people or objects having common observable characteristic of interest that the researcher desires to investigate and upon whom the research findings are generalized (Mugenda & Mugenda, 2008; Sekaran, 2010). In this study and according to knls establishment records, the target population was made up of 675 employees of Kenya National Library Service (knls, 2014). The observable characteristic of the population desirable and relevant to this study was the fact that all the individuals that constituted the population were information officers who engage in business of sharing knowledge.

Sample and Sampling frame

Kothari (2008) asserts that sampling frame is physical representation of the target population that comprises all units that are potential members of a sample. Cooper & Schindler (2011) corroborates that sampling frame describes the list of all population units from which the sample will be selected. Sample according to Cooper & Schindler (2011) is a carefully selected and representative subset of the population to be studied. In selecting the most representative sample, the researcher used stratified non-random sampling. Orodho (2003) describes stratified sampling as applicable if the population is not completely homogeneous.

In this study the population was structured into 11 departments and 60 branches in different regions and sharing different pieces of knowledge in different ways. Each department or branch was taken as a stratum and from each stratum the desired sample was selected using stratified non-random sampling picking the head and deputy in each department, librarian and deputy in each branch. This constituted a sample of 142 members representing 21.04% of the population. This is validated by Mugenda and Mugenda (2008) assertion that a sample size of

10% of the target population is large enough and allows for reliable data analysis and testing for significance of differences between estimates.

Data Collection

Creswell (2003) explains data collection as a means of obtaining information from the selected respondents of an investigation. The researcher collected data by administering questionnaires and conducting interviews. The study used structured and unstructured questionnaires with open and close ended questions to collect both qualitative and quantitative data from respondents. The researcher prepared interview schedule guides to guide interviewing and to focus the interview on the intended purpose. The structured questions were employed not only to save time and money but also to enable smooth data analysis. The unstructured questions aided in prompting respondents to give profound and painstaking response with no feeling of being weighed down in revealing of any information. Likert scale was used in the questionnaire to give respondent an opportunity to rank their views on the questions.

Pilot testing

According to Cooper and Schindler (2011), pilot test is conducted to detect weaknesses in design and instrumentation. Kvale (2007) corroborates that Pilot test enables the researcher to determine if there are flaws, limitations, or other weaknesses in the interview design allowing corrections to be made before conducting the study. To test both the validity and reliability of the data collection instruments, Pilot testing was conducted on 15 staff members of Kenya National Library Service who were not be included in the final study. This was informed by (Cooper & Schindler, 2011, Creswell, 2003) rule of thumb that 1% of the sample should constitute the pilot test.

Mugenda and Mugenda (2008) argues that the content validity of a research instrument is tested by use of a professional or expert in a particular field. The researcher established the validity of the research instruments by seeking the opinions of the experts in knowledge management and the supervisors. The researcher used Cronbach's alpha (Cronbach, 1951) to measure the internal consistency of the research instruments. SPSS was used to compute the Cronbach's alpha values. The recommended alpha value of 0.7 was used as a cut-off point for the reliabilities.

Data Processing and analysis

Data analysis comprised organizing, coding, analyzing and summarizing data collected. Using the Statistical Package for Social Sciences (SPSS Version 20), descriptive statistics were generated to help establish relationships, trends and patterns. This made it easy to understand and interpret the influence of independent variable on the dependent variable. The study used multiple regression analysis to establish relationship between independent and dependent variables. This was modelled as:

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$$Y=\beta 0+ \beta 1x1+ \beta 2x2+ \beta 3x3+ \beta 4x4+\varepsilon$$

Where Y is Knowledge Sharing; β0 is the coefficient of Intercept; β1, β2, β3 and β4 are the regression coefficients of independent variables; x1, x2, x3 and x4 represents independent Variables (ICT tools; ICT infrastructure; ICT skills, ICT structure) and ę is error term.

RESEARCH FINDINGS

Effect of ICT tools on Knowledge Sharing in State Corporations

The predictors were Web Meetings & Portals, Corporate emails, Social Communities, Collaborative workspaces and Online Discussion Forums. R-square value obtained was 0.701 indicating that ICT tools explains 70.1% of variability in Knowledge sharing. The overall model was significant, F (5, 95) = 44.630, p<0.05. The findings indicated that significantly, Collaborative Workspaces (t=4.366, p<0.05) accelerate Knowledge Sharing; Online Discussion Forums (t=5.856, p<0.05) enable global Knowledge Sharing; Social Communities (t=5.583, p<0.05), are quick ways to communicate with other employees; Web Meetings and Portals (t=7.898, p<0.00) are quick knowledge references that enhance quality of knowledge shared and Corporate Emails (t=3.623, p<0.05) are used in problem solving and decision making in State Corporations as shown in table 1. The findings concurs with Nooshinfard and Nemati-Anaraki(2012) findings that ICT tools accelerates diffusion of Knowledge and with Yates & Paquette (2011) assertion that social media and collaborative workspaces are key drivers in Knowledge sharing especially in critical situations.

Table 1: Coefficeints for effect of ICT tools on Knowledge sharing

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.380	.264		1.443	.152
Online Discussion Forums	.261	.045	.383	5.856	.000
Social Communities	.173	.031	.323	5.583	.000
Corporate emails	.135	.037	.242	3.623	.000
Collaborative workspaces	.146	.033	.255	4.366	.000
Web Meetings & Portals	.187	.024	.463	7.898	.000

Influence of ICT infrastructure on Knowledge Sharing in State Corporations

The predictors were Hardware & Software availability, Network Availability, Internet Connectivity and Virtual Workspace Availability. The R-square value obtained was 0.894 meaning that ICT infrastructure positively influences 89.40% of the variability of knowledge sharing. The predictors, were found to statistically significantly predict knowledge sharing at p<0.05 significant level for F(96,4)=203.203 and actual p-value=0.000.

The findings indicated that Network Availability (t=9.783, p<0.05) have the greatest Influence as an inevitable precondition for effective Knowledge Sharing. Virtual Workspaces (t=7.083, p<0.05) are convenient ways of remotely sharing knowledge and Internet Connectivity (t=4.433, p<0.05) improve Knowledge sharing. The study findings concurs with Mills and Smith (2011), that organization that lacks effective Computer Networks and ICT infrastructure finds it hard to facilitate knowledge sharing and with Toro and Joshi (2013) and Quadri (2012) findings that ICT infrastructure is an inevitable precondition for successful knowledge sharing. Computer Software and Hardware (t=1.305, p>0.05) was found not to have significant influence on Knowledge sharing. The results are shown in table 2.

Table 2: Coefficients for influence of ICT infrastructure on Knowledge sharing

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.376	.170		2.208	.030
Internet Connectivity	.208	.047	.217	4.433	.000
Networks Availability	.381	.039	.488	9.783	.000
Virtual workspaces	.284	.040	.420	7.083	.000
Software & Hardware availability	.056	.043	.076	1.305	.195

Influence of ICT skills on Knowledge Sharing in State Corporations

The predictors were How-to-guides, Employee experience in ICT, Online Brainstorming and Frequently Asked Questions (FAQ). The R-square was found to be 0.873 meaning that the weighted value of the ICT skills predictors explained approximately 87.3% of the positive change in Knowledge sharing. Analysis of variance revealed that ICT skills significantly influence knowledge sharing at p<0.05 level for F (4,96)=164.926 and actual p-value=0.000.

The Findings indicated that there is significant influence of each of the ICT skills predictors in knowledge sharing. Explicitly put, state corporations maintains a list of Frequently Asked Questions (t=6.476, p<0.05) as a way of impacting new knowledge; depends on Employee's experience in ICT (t=8.045, p<0.05) to orient new employees; maintains How-to-guides (t=2.848, p<0.05) to disseminate specific procedural knowledge to its employees and employs Online Brainstorming (t=3.908; p<0.05) as inexpensive methods to gain and disseminate new knowledge. This study findings agrees with Bataweel & Alsuraihi (2013) findings that Knowledge Sharing in an organization is enabled by and through adequate technology and people who know how to use it. The results are tabulated in table 3

Table 3: Coefficients for influence of ICT Skills on Knowledge sharing

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.383	.120		3.189	.002
Employee experience in ICT	.261	.032	.338	8.045	.000
Online Brainstorming	.131	.033	.161	3.908	.000
FAQ	.369	.057	.467	6.476	.000
How-to-guides	.144	.051	.195	2.848	.005

Influence of ICT structure on Knowledge Sharing in State Corporations

Research findings indicated that 97.2% of the variability of Knowledge sharing can be explained by ICT structure. Analysis of variance revealed that ICT structure predictors statistically significantly predicted knowledge sharing since actual p-value=0.000.

The study findings furthers revealed that all the predictors had a statistically significant influence on knowledge sharing with p<0.05 as shown in table 4. The level of limits imposed on users by the existing ICT Hardware or Software (Restrictiveness) with a t-value of 18.982 had the greatest influence on Knowledge sharing in State Corporations. The ability of ICT systems to allow new functions, upgrades, rules, structures (Level of sophistication) with t-value of 11.410 and the features and functionality available for use by users in ICTs (Comprehensiveness) with t-value of 10.783 also significantly affects knowledge Sharing. The study findings concurs with Zhang et al. (2006) that structural properties of various ICTs including restrictiveness, sophistication, and comprehensiveness affects the Knowledge management systems and that alignment of ICT structure with the organization structure greatly improves Knowledge sharing.

Table 4: Coefficients for influence of ICT Structure on Knowledge sharing

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.003	.068		-.043	.966
Level of sophistication	.310	.027	.369	11.410	.000
Comprehensiveness	.285	.026	.324	10.783	.000
Restrictiveness	.410	.022	.423	18.982	.000

Overall Influence of ICT on Knowledge Sharing in State Corporations in Kenya

A regression model to predict the overall influence independent variables (ICT tools, ICT infrastructure, ICT skills and ICT Structure) on the dependent variable (Knowledge Sharing)

when taken together was obtained. R-square was found to be 0.652 inferring that 65.2% of any positive change in knowledge sharing in state corporations in Kenya can be attributed to ICT. These findings were statistically significant at $p<0.05$ for $F(96,4)= 44.891$, actual p-value=0.000.

The coefficients of regression model were obtained are shown in table 5. The unstandardized coefficients indicated how knowledge sharing varied with each independent variable when other independent variables were held constant. The coefficients helped generate the regression model of influence of ICT on Knowledge sharing as

$$Y= -0.059 + 0.266x_1 + 0.294x_1 + 0.199x_2 + 0.272x_4 + ę$$

Where Y is Knowledge Sharing; The coefficient of Intercept= -0.059; x_1 is ICT tools; x_2 is ICT infrastructure; x_3 is ICT skills; x_4 is ICT Structure; ę is error term which takes the unexplained variations in the model. This implies that Increase in ICT tools by one unit increases Knowledge Sharing in state corporations by 0.266, while improvement of ICT infrastructure by one unit increases Knowledge sharing in State Corporations by 0.294. Single unit of increase in ICT skills increases Knowledge sharing in State Corporations by 0.199 and improvement of ICT structure by one unit increases Knowledge sharing in State Corporations by 0.272.

The t-values revealed that that ICT structure (t=8.438) is the greatest influencer of Knowledge sharing, followed by ICT Skills (t=5.796), ICT tools (t=5.089) and ICT infrastructure (t=4.603) in that order. This clearly indicates that besides investment in ICT tools and Infrastructure, Capacity building for ICT skills and proper ICT structure greatly determines the quality and quantity of Knowledge shared and the effectiveness of the knowledge sharing processes.

Table 5: Coefficientsa of regression for overall influence of ICT on Knowledge Sharing

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.059	.381		-.154	.878
	ICT infrastructure	.294	.064	.281	4.603	.000
	ICT Skills	.199	.034	.351	5.796	.000
	ICT Tools	.266	.052	.314	5.089	.000
	ICT structure	.272	.032	.518	8.438	.000
a. Dependent Variable: Knowledge Sharing						

CONCLUSIONS

The study concludes that ICT tools are key drivers of efficiency and effectiveness in Knowledge sharing for competitive advantage. Innovative use of contemporary ICT tools such as Collaborative Workspaces, Online Discussion Forums; Social Communities; Corporate Emails, Web Meetings and Portals increase the quantity and quality of knowledge shared. The study found out that Network Availability is inevitable precondition for effective Knowledge Sharing and Virtual Workspaces are convenient ways of remotely sharing knowledge. The study therefore concludes that Internet enabled Computer Networks and internet based virtual workspaces are compulsory for sustainable and result-based Knowledge sharing in State Corporations in Kenya. The study findings indicate that State Corporations uses Employee's experience in ICT to orient new employees; How-to-guides to disseminate procedural knowledge and Online Brainstorming to gain and disseminate new knowledge. Therefore the study concludes that strategic and focused use of these and other ICT skills in Knowledge sharing can positively transform service delivery in state corporations in Kenya. Finally the study found that ICT structure affects over 95% of Knowledge sharing processes. This implies that comprehensive, non-restrictive and less-sophisticated ICT structures strategically aligned with the organizational structures would greatly improve Knowledge sharing, innovativeness and productivity in service delivery in State Corporations in Kenya

RECOMMENDATIONS

To the Government, the study recommend increased budgetary allocation for ICT in State Corporation to fund development of mature ICT infrastructure through acquisition of the right ICT tools and deployment of the right ICT skills through capacity building. This will foster facilitate effective Knowledge sharing within and among state corporations in Kenya and foster innovation. The study further recommends entrenchment of public knowledge management in the national ICT policy and cascading such policies down to the State Corporations as guidelines.

This study recommends to the Management of State Corporations to ensure development and implementation of an integrated ICT and Knowledge Sharing policy framework to strategically alignment of ICT enabled Knowledge sharing with the overall organization objective and management structure. In absence of such a strategic policy State Corporation and the Government at large may not reap benefits from investment in ICTs and in its effort towards Knowledge Based economy. To the management of State Corporations, this study further recommends institutionalization of Collaborative Knowledge Sharing culture grounded on innovative use virtual workspaces, social communities and online brainstorming to enhance productivity and organizational learning.

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