

## THE INFLUENCE OF TRAINING, COMMUNICATION, INFORMATION TECHNOLOGY AND LEADERSHIP ON IMPLEMENTATION OF KNOWLEDGE MANAGEMENT IN STATE CORPORATIONS

**BENTER ALICE AKINYI**

**Jomo Kenyatta University of Information Technology, Msc Human Resource Management**

**Dr. Alice Abok**

**Lecture, Jomo Kenyatta University of Information Technology**

**Key Words:** Knowledge Management, Tacit Knowledge, Explicit Knowledge, Embedded Knowledge Sharing & Knowledge Transfer.

### **ABSTRACT**

*Knowledge management (KM) is a formalized, integrated approach to identifying and managing an organization's knowledge assets. The main purpose of this study was to investigate factors affecting the implementation of knowledge management in State Corporations in Kenya. More specifically the study sought to evaluate the influence of training, communication, information technology and knowledge leadership on knowledge management. Studies done on knowledge management have focused on comparisons on public and private sector use of knowledge. Others have examined how knowledge management practices are carried out in both the Public and Private Sectors. To add the existing literature, the study investigated factors affecting the implementation of knowledge management in state corporations. The study concentrated on the factors; Training, Communication, Information Technology and Knowledge Leadership. Descriptive research was used in the research. The target population was state Corporations in Kenya, while the study population was middle level managers of the state corporation within the state Department of Agriculture. The Sample size was 100 middle level managers. Primary data was collected using a questionnaire. A pilot test was conducted to establish the validity and reliability of the questionnaire. Regression analysis was used to establish to what extent each variable affects the dependent variable. Data presentation was done using tables, pie charts, averages, frequencies. Analysis was done using SPSS V.21 to assist in analyzing data. The study sought to establish the factors affecting knowledge management implementation in state corporations Case of State Department of Agriculture and whether training, communication, information technology and knowledge leadership will affect the implementation of knowledge management in state corporations. Results from regression model of knowledge management implementation on organizational*

*leadership, communication, information technology and training revealed that the coefficients for training, communication and information technology were significant at 5% level of significance. Therefore, knowledge management implementation can be predicted using training, communication and information technology. However, the coefficient for organizational leadership was not significant.*

## **INTRODUCTION**

Knowledge Management has been flaunted as the differentiator between companies; the means to gaining competitive advantage. As the information society continues to grow exponentially, so have the opportunities to gather and use knowledge to optimum effect (Rock, 1998). In the current knowledge economy, it is becoming increasingly necessary for organizations to generate and utilize information to obtain a competitive advantage and function efficiently (Fowler & Pryke, 2003). Workforce mobility, falling educational standards, and the rapid rate of business change mean that individuals can no longer be relied upon to provide consistent, comprehensive insight. Instead, the knowledge trapped within the employee base must be leveraged to the organizational level, where it can be accessed, synthesized, augmented, and deployed for the benefit of all (Moya, 2010).

It therefore follows that in the event a firm acquires individual level knowledge and resources through selection, training or experience and other learning activities, it must find a way to leverage those resources to the team level and eventually to the organizational level (De Nisi, 2000). These calls for a strong culture that will enable an organization share their knowledge for the purposes of competing at global, regional and local levels through effective knowledge management strategies. Knowledge Management refers to the process or practice of creating, acquiring, capturing, sharing and using knowledge wherever it resides to enhance learning and performance in organizations (Scarborough et al 1999). It focuses on the development of a firm's specific knowledge and skills that are the result of organizational learning process. Knowledge management is concerned with flows of knowledge stock including expertise and encoded knowledge in computer systems (Scarborough et al 1999).

Knowledge management information helps to fulfill knowledge management goals therefore achieving organization's competitive advantage. Knowledge management is applied today across the world, in all industry sectors public and private organizations and humanitarian institution and international charities. Effective knowledge management is now recognized to be the key driver of new knowledge and new ideas to the innovation process, to new innovative products, services and solutions (Tan, 2000).

However, the successful implementation of knowledge management initiatives is hypothesized to be hindered by several factors among them; leadership, communication structure, roles and responsibilities, information technology infrastructure and measurement (Farida 2002). While Farida (2002) argues that these factors are the generally mentioned critical success factors to knowledge management implementation, he argues that the impact of the factors is dependent on the environment in which the knowledge management initiatives are implemented. Metaxiotis (2002) argues that the contextually of knowledge management has attracted a great deal of attention from both the academic and practitioners, seeking to identify the success factors to knowledge management implementation in different settings. This study seeks to assess knowledge management implementation in Kenya.

### **Global Perspective on Knowledge Management**

Globally, knowledge exchange has been prioritized as one of the pillars of the G20 Development Working Group, as part of a multi-year action plan. In addition, middle-income countries are increasingly seeing the value of knowledge in service delivery and efficiency (Farida 2002). This trend by developed countries to consider knowledge management implementation in a multi-year action plan, points to the fact that knowledge exchange is not an ad-hoc phenomenon; rather it requires a systematic approach in the form of an established knowledge exchange platform which, in turn, will be complemented by a number of sector-specific knowledge hubs (Metaxiotis, 2002).

knowledge management implementation in America is augmented by appropriate IT platform. A recent study from the American Productivity and Quality Centre shows that organizations embarking in knowledge management efforts generally rely, for accomplishing their goals, on the setting of a suitable IT infrastructure (Uwe 1997). However, on the other end of the spectrum, leading knowledge management theorists have warned about the attitude that drives management towards strong investments in IT, possibly at the expense of investments in human capital (Sveiby, 1997). The danger that this view point sees is that IT-driven knowledge management strategies may end up objectifying and calcifying knowledge into static, inert information, thus disregarding altogether the role of tacit knowledge (Uwe, 1997).

Internationally, the European knowledge management Forum adopted the goal of creating common ground in knowledge management terminology, application and implementation and stimulating 'the definition of open standards and common approaches for knowledge management across Europe (Weber et al., 2002). This goal culminated in the European Committee for Standardization's 2004 Guide to good practices in Knowledge Management.

Based on the guide, knowledge management is concerned with the innovation and sharing behaviors, managing complexity and ambiguity through knowledge networks

and connections, exploring smart processes, and deploying people centric technologies (Standards Australia, 2005). In fast developing economies of the world such as Malaysia, knowledge management implementation is majorly being driven by the premise that government institutions might derive several benefits from knowledge management that will ensure efficient service delivery. According to a survey carried out in Malaysia if government ministries implement knowledge management practices, the ministries could improve on their work quality, be more effective, have up to date information, improve efficiency, improve decision making and be able to respond to customer needs (Rowland and Syed 2004).

### **Regional Perspective on Knowledge Management**

Knowledge Management is required for African countries to become knowledge-based societies. Aldrich (2005) argues that knowledge management and eLearning will converge to form a powerful new entity which brings together knowledge, eLearning and organizational change. This mixture is required to propel Africa to the 21<sup>st</sup> Century where knowledge and intellectual property are key to achieving national development. Supporting the merger of the two concepts, of knowledge management and eLearning, Tom Barron (2000) points out that new ways to work and learn are just around the corner and web technologies will cement the marriage of the two buzz words.

A range of regional organizations in Africa are willing to support the spread of knowledge management. However even to more developed countries in Africa such as South Africa, knowledge management is still a very new field of management and knowledge managers are experiencing difficulties with the added dimension of multiculturalism. The history of South Africa, along with its current focus on cultural equality, complicates the matter (Nicogaan et al. 2005).

Knowledge Managers are faced with challenges in a multicultural South African Corporate environment where companies are afraid to acknowledge cultural differences because of major cultural sensitivity and, as a result, corporate culture is seen as the great equalizer of cultural exchanges. Knowledge managers, along with top management's support, have to create a cooperative knowledge-sharing environment in which South Africa's diverse cultures can interact, learn from one another and innovate (Nicogaan et al. 2005).

In Nigeria, Ajaikaiye and Olusola (2003) observed that the knowledge system of any progressive society performs a pivotal function in its development. However, they note that "in spite of this recognition, the attention given to Nigeria's knowledge system has been weak and unstable, and has therefore affected its effectiveness and utilization" (Ajaikaiye & Olusola, 2003, pg. 5). Riley, (2003) postulates that successful implementation of knowledge management in African countries calls for institutions and

countries to determine and develop organizational practices, principles, guidelines, and approaches on how knowledge can be created, harnessed, shared, tracked, and distributed among government agencies, research communities, and the public. However given that African countries such as Nigeria is characterized by multi-dimensional perspective of poverty and agriculture and cultural diversity specific knowledge management systems should be designed to meet these specific needs (Ajaikaiye&Olusola, 2003). Additionally, as the world moves gradually into the knowledge-based society predicted by Peter Drucker in the early 1970s, one of the challenges for developing countries in Africa, Asia and Latin America is how to create building blocks and vehicles to manage and quicken the transition process.

For a country to become a knowledge-based society, organizational learning is of paramount importance because individuals have to engage in continuous learning to acquire new knowledge, not just to remain relevant, but also to make their organization competitive. Human Resources Departments as well as Information Management Departments, where knowledge management exist, have a key role to play (Riley, 2003). In Tanzania overdependence of the economy in Agriculture has called for knowledge management implementation to ensure sharing of agricultural based knowledge. The Agriculture sector in Tanzania employs 70-80 percent of the population and generates about 70% rural household income. Moreover, the sector to account for 25.8% of Gross Domestic product and 34% of exports (URT, 2011). In order to improve agricultural production, and edge of information related to efficient allocation of available resources, market and use of new or innovative farming practices is needed. knowledge management ensures that farmers and extension officer can share insights on such information and improve the performance of the overall economy (Liao, Fei& Chen, 2007).

### **Statement of the Problem**

As the baby boomer generation nears the traditional retirement age of 65, organizations are finding themselves facing a potential mass exodus of their most senior and experienced employees. The potential retirees have a knowledge inventory accrued through a career of successes and failures in their field. This knowledge base is often the foundation of decisions that enhance operational efficiency, foster innovation, reduce the occurrence of critical errors and enables corporate growth strategies (Chifallu, 2011). Traditional human resource practices aim at replacing the individual and often does little to consider how their wealth of experiential knowledge can be retained prior to their departure (Schultze&Leidner, 2002). According to the Capacity Assessment and Rationalizing by the Rationalization Technical Team (CARPS Report) for the Ministry of Agriculture, Livestock and Fisheries Joint Assessment and Rationalization Report a total of 710 staff are due to retire between 2014 and 2019.

This represents a total of 21% of the total population. It also indicates that the average annual attrition rate based on age will be 4.2%. Majority of those due to retire are in the State Department of Agriculture. There is therefore need for strategic HR Planning to replace these workers (where required) and transfer knowledge to the younger staff.

Ondari & Minishi (2007) argue that these practices not only affect an organization's capacity to operate effectively, but replacing an experienced individual with someone from the outside costs an organization. Knowledge management offers a promise of addressing this problem through activities of knowledge transfer, creation, application, storage, identification and acquisition that aims to increase organizational performance, improve quality of service, and sustain competitive advantage (Mosoti, 2007).

Owing to the benefits of knowledge management, state corporations need to identify the success factors of knowledge management implementation and accommodate the knowledge management concept as a means of attaining a competitive edge (Fowler & Pryke, 2003). However, despite the importance of knowledge management in ensuring organizational success, its adoption in Kenyan State Corporation has been slow (Chifallu, 2011). Mosoti (2007) argues that while state corporations ascend to the benefits of knowledge management, lack of effective training, communication, information technology and leadership, has slowed down the adoption of knowledge management in state corporations. According to Ondari and Minishi (2007) the management of state corporations in Kenya rarely offer training to their employees on new innovations and management processes. Additionally, the performance evaluation process for state corporations and Civil service (Ministries /Departments) that was undertaken in August – September 2010 and made public in December, 2010 revealed that 50% of state corporations perform poorly in meeting their PCs due to lack of effective communication and leadership (Nyongesa, Sewe & Ng'ang'a, 2012). This coupled with slow adoption of new technologies in the public sector (Nyogesa et al., 2012) has led to slow adoption of human resource management solutions such as Knowledge Management.

Further exacerbating the situation is the fact that the management of most organizations do not understand the success factors to knowledge management (Mosoti & Masheka, 2010). If the current situation is not addressed, the economic development of the country will be slow, denying Kenyans an opportunity to improve their welfare (Chifallu, 2011). Additionally, the country will not be able to achieve her objective in Vision 2030 of becoming a knowledge-led economy for rapid economic growth (Mosoti, 2007). This study therefore sought to assess the factors affecting the implementation of knowledge management in state corporations in Kenya, specifically in ADC.

**Objectives of the study**

1. To determine whether Training affects implementation of knowledge management in state corporations.
2. To assess the influence of communication on the implementation of knowledge management in state corporations.
3. To find out the effect of information technology on the implementation of knowledge management in state corporations.
4. To establish the influence of organizational leadership on the implementation of knowledge Management in state corporations.

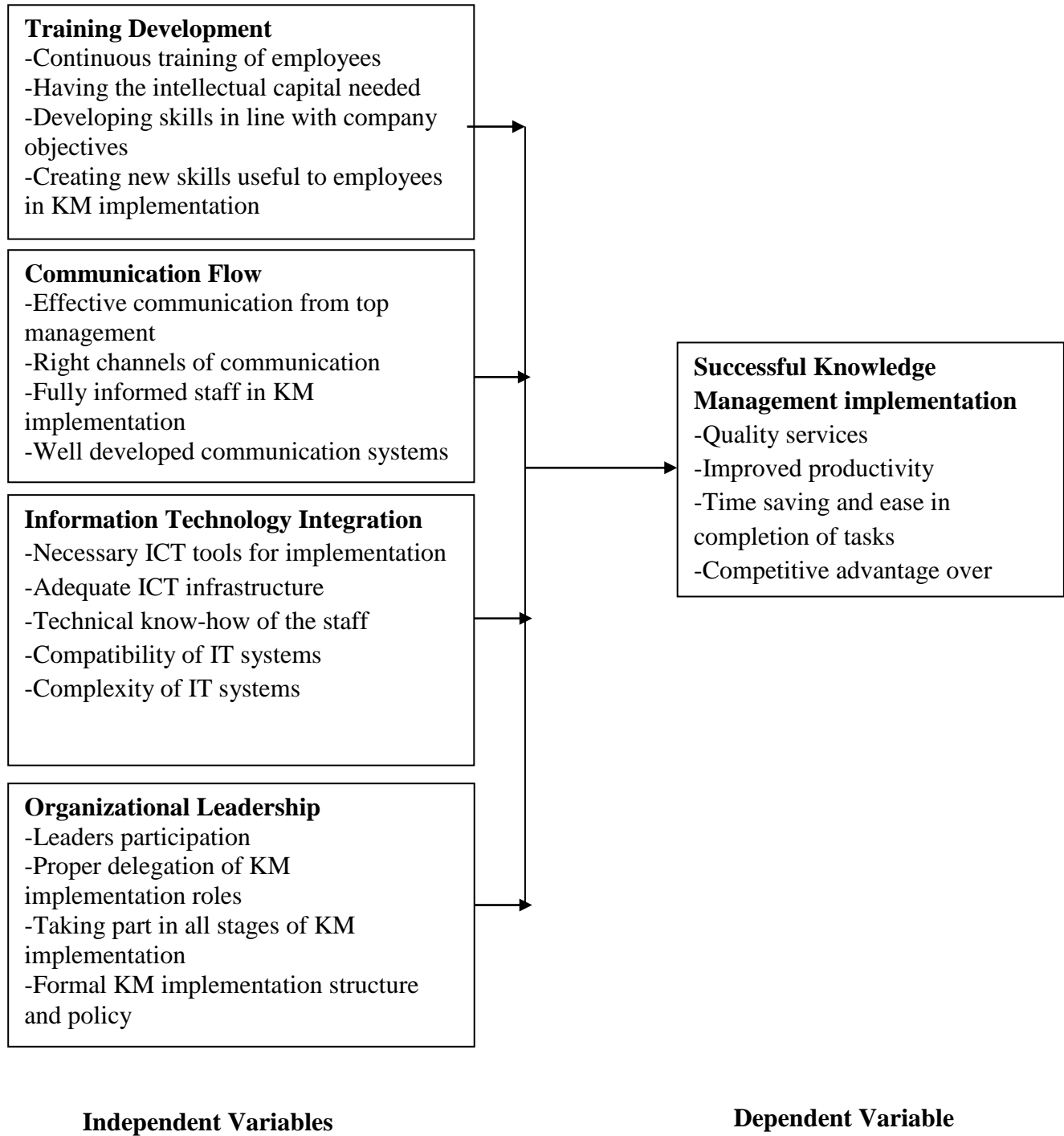
## Theoretical Review

There are many theoretical frameworks used in the emerging knowledge management field with no single one agreed upon so far. Knowledge management implementation is contextual and therefore there are agreements among researchers and academicians on the most comprehensive theory or model explaining knowledge management implementation. It is due to this reason that although knowledge management is the heart of innovation and developing a competitive advantage and it's a key concern for managers in the business world, the creation and transfer of knowledge are the tasks that remain challenging. This study therefore, is mainly anchored on the Knowledge Management Process Model by Botha et al (2008) because the three variables of knowledge creation, organising and sharing that effectively embody the variables to be assessed in this study. However, in order to eliminate the theory's limitations, and in recognition of the complex nature of knowledge management implementation, other two theoretical frameworks namely: The knowledge management Matrix Model by Gamble and Blackwell (2001) and SECI Theory & Model Of Knowledge Dimensions by Nonaka et al 2000 are also triangulated with Knowledge Management Process Model by Botha et al (2008).

## Conceptual Framework

According to Kombo and Tromp (2009), conceptual framework is a set of broad ideas and principles taken from the relevant fields of inquiry and used to structure a subsequent presentation. It is a pictorial representation of the relationship between the independent variables and dependent variables and dependent variable. The conceptual framework is the schematic diagram which shows the variables included in the study (Urco 2009). The study will adopt a conceptual framework (Figure 1) has the following independent variables Training, Information technology, communication and knowledge leadership. Knowledge Management is the dependent variable.





Previous studies carried out on knowledge management included comparisons of knowledge management practices in Private and Government Sector Park (2007). Relationship between organizational factors and the process of knowledge transfer (Rowland and Syed, 2004). Mosoti and Masheka (2010) study established that most challenges experienced are on implementation of knowledge management. This research therefore provides new knowledge to guide an effective implementation of knowledge management practices.

A study conducted by Andersen and The American Productivity and Quality Center (APQC) in 1996 revealed that one crucial reason why organizations are unable to effectively leverage knowledge is because of a “lack of commitment of top leadership to sharing organizational knowledge or there are too few role models who exhibit the desired behaviour” (Hiebeler, 1996). Additionally, Srivastava, Bartol and Locke (2006) in their study on the effects of knowledge sharing, efficacy, and performance on empowering leadership in management teams found out that knowledge sharing within a team is not an automatic occurrence and that team leader play a crucial role in realizing knowledge sharing. The study further found out that leadership play a key role in encouraging and nurturing knowledge sharing behaviors. In the context of team cohesion, leadership strongly affects knowledge sharing.

Davenport et al. (1998) conducted a study to explore the practices of 31 knowledge management projects in 24 companies, with the aim of determining the factors associated with the effectiveness. The result identified 18 successful projects with eight success factors. These factors were linking knowledge management to economic performance or industry value, a clear purpose and language, a standard and flexible knowledge structure, multiple channels for knowledge transfer, culture, technical and organizational infrastructure, change in motivational practices, and senior management support (Wong, 2005).

Similarly, Liebowitz (1999) proposed six key ingredients for making knowledge management successful in organizations. He pointed the need for knowledge management strategy with support of senior management, a chief knowledge officer (CKO) or equivalent and a knowledge management infrastructure, knowledge ontologies and repositories, knowledge management systems and tools, incentives to encourage knowledge sharing and supportive culture. His propositions were implemented by the first adopters of knowledge management.

A different approach was carried out by Wong and Aspinwall (2005). Firstly, they investigate the factors, which derived from various literature sources, and probably influence the success of knowledge management. Secondly, they conducted a Delphi study in order to assess the appropriateness for the factors they evaluated and explored

earlier. They suggest three types of influences, managerial, resource, and environmental, containing different factors each one.

Also another empirical study conducted by Davenport and Probst (2002) suggested a more extensive list of success factors for the implementation of knowledge management. This list included leadership, performance measurement, organizational policy, knowledge sharing and acquisition, information-systems structure, and benchmarking and training.

According to Asiamah (2006) in a study carried out on the Ghanaian Public Sector (A case study of the Value Added Tax (VAT Service) depicted that without restructuring and re-orientation, the public sector may not be able to implement a workable knowledge management strategy. Bureaucracy, Centralized operations, budgetary constraints, resistance to change and political interference stifle knowledge culture in the public sector. The study showed that there were indications that with some efforts on the part of public administrators the effective implementation of knowledge management initiative in the public sector would soon be possible.

In Australia an attempt to measure the performance of knowledge management strategies in the public sector has also been made by De Gooijer (2000). According to De Gooijer (2000), there are two key differences that need to be accommodated which distinguish public sector management from management of commercial enterprises. The differences are First, public sector agencies are not involved in a simple transaction of service between themselves as a supplier and others as customers.

The relationship is far more complex and better described as one between the agency of government and diverse stakeholders. Second, although it is currently fashionable to describe public sector agencies as business operations they are not profit making concerns. Financial management is only one accountability of many, and not the primary task (De Gooijer, 2000). Davenport and Prusak (2000) regarded information technology (IT) as both a key contributor and an enabler in the field of knowledge management. Marwick (2001) proposed that a number of IT tools be applied to the different knowledge creation process. Information Technology that is part of effective knowledge management can thus be classified into two types: Communication technologies (for example e-mail, video conferencing, electronic bulletin boards, and computer conferencing) and decision-aiding technologies (for example decision-support systems, expert systems and executive information systems) (Song et al., 2001).

Stenmark (2002) has suggested a multi-perspective view of intranet, a technology that helps in creating an effective knowledge management environment, which includes Information perspective, awareness perspective and communication perspective. Haldin-Herrgard (2000) maintained that a great deal can be done through modern IT to

diffuse explicit knowledge. It is also becoming easier to capture tacit knowledge with the aid of retrieval technologies (Singh et al., 2006). Stankosky & Murray (2006), through their research identified information technology as a variable that could impact knowledge sharing.

Finally, studies that have largely informed this study on the factors that affect implementation of knowledge management include studies by Wong (2005) and Mathi (2004). Wong (2005) created a four pillar model to show the importance of different factors for ensuring successful implementation of knowledge management initiatives. The four pillars were leadership, organization, technology and learning (Mathi, 2004).

In addition Stankosky and Baldanza (2010) in their study on the knowledge management as an evolutionary architecture toward enterprise engineering developed a conceptual framework for knowledge management in which the four pillars were organization, technology, leadership, and learning. Moreover, Mathi (2004) study on the key success factors for knowledge management in Lindau, Germany proposed that the factors which determine knowledge management success in an organization are culture, knowledge management organization, systems and information technology infrastructure, effective and systematic processes and measures. The table 2.1 below presents a summary of the empirical literatures on the factors affecting knowledge management implementation.

## Summary

In summary from the proposed theories, it has been noted that the factors like culture, Information technology, Human Resource Management and Knowledge leadership have been proposed as key to the development of successful knowledge management in government bodies. From the literature it can be concluded that developments in information technology are one of the drivers and enablers of managing knowledge. The citations covered in the study provide an overall feel of how technology is used. It can also be concluded that the cultural dimensions of organizations and culture and human factors affect the management of knowledge. Willingness and capacity to share knowledge is directly affected by the culture and a person of an organization, thus creating the knowledge sharing culture is necessary if any knowledge management program is to succeed. In other words, the knowledge management process is influenced by peoples' behavior and practices. It can also be concluded that knowledge management in the public sector is critical and not just another management fad.

## Research Gaps

Riege and Lindsay (2006) in their Research on Knowledge Management in the public sector; stakeholder partnership in the public policy development, noted that although there was no doubt that knowledge management plays a greater role within public services, there is however little research and few guidelines on how governments in practice can develop more effective knowledge management . Woodford (2009) in a report prepared for a federal agency noted there are compelling reasons for introducing and maintaining knowledge management in the public sector but successful implementation requires consideration of the parameters and requirements unique to the public sector.

Abdullah and Hemadate (2009) in their research on public sector knowledge management: a generic framework noted that in the literature and case study reviews on knowledge management in the public sector, the tacit aspect of knowledge and knowledge management generally had been overlooked, this led to the aim to highlight the value placed on people, ICT, knowledge work as the process involved in public sector knowledge management. This research sought to fill this gap by developing a framework to be used in knowledge management Kenyan State Corporations.

## RESEARCH METHODOLOGY

The study adopted a descriptive research design and case study. Mugenda and Mugenda (2003) descriptive research determines and reports the way things are. Descriptive research is restricted to fact finding and may result in the formulation of important principles of knowledge and solutions to significant problems

The population for this study included all the ADC state corporation employees. At present there are 900 ADC employees spread across the country. The target population included employees in Nairobi County total to 300 which consist of 118 technical officers, 90 human resource managers and 92 office administrators.

Stratified random sampling technique was employed in this study. The stratified random sampling technique involved the dividing of the population into strata or groups and then drawing samples randomly from each group to interview (Kumar, 2005).

A proportion of 10% to 30% of the target population was selected as the representative sample as advised by Mugenda and Mugenda (2003). Based on the target population (300 employees), the sample size was 30 employees.

To achieve the Research objectives, both primary and secondary data was used to answer the questions. Primary data was collected through a self-administered structured questionnaire because it is relatively quick to collect information using questionnaires and they are easy to analyze (Walonick, 2010). The researcher carried out a pilot study among 10 respondents. Mugenda & Mugenda, (2007) states that a relatively small sample of 10 to 20 respondents can be chosen from the target population during piloting which is not included in the sample chosen for the main study. The reliability of the instrument was estimated using Cronbach's Alpha Coefficient which is a measure of internal coefficient. A reliability of at least 0.70 at  $p=0.05$  significance level of confidence is acceptable (Kimberlin & Winterstein 2008). The validity of the questionnaire was established by the help of the supervisors and the panellists from the school of Human Resource Development.

### Data Processing and Analysis

Data analysis is the practice in which raw data is ordered and organized so that useful information can be extracted from it (Gall and Borg, 2007). Data collected was analyzed using Statistical Package for Social Sciences V.21 (SPSS) as well as correlation to establish the relationship between independent variables and dependent variables. The Likert Scale rating is the most commonly used rating scale for measuring perception and is used to rank or rate the subjective or intangible components in research. (Mugenda and Mugenda, 2003).

Multiple Linear Regression Analysis model used to show the relationship between dependent variable and independent variable (Kothari, 2004).

$$Y = B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + e$$

Where

Where Y is the dependent variable (knowledge management implementation),

$B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4$  = Explained variation of the model

E= Unexplained variation like error term, it represents all the factors that affect dependent variable but are not included in the model either because they are not known or difficult to measure.

$X_1$  = training

$X_2$  communication

$X_3$  information technology

$X_4$  is the knowledge leadership independent variable,

$B_1$  and  $B_2$ , = Regression Co-efficient. Defines the amount by which Y is changed for every unit change of predictor variables. The significance of each of the co-efficient will be tested at 95 percent level of confidence to explain the variable that explains most of the problem.

## RESULTS AND INTERPRETATIONS

Majority of the respondent (59.2%) were females whereas 40.8% of the respondent were males, this is an indication that both genders were involved in this study and thus the finding of the study did not suffer from gender bias. Majority of the respondents (40.8%) were aged 35 to 44 years while the minority was above 50 years of age. These results show that the study sample was sensitive to the age of the respondents capturing opinions across all the age groups.

### Univariate Linear Regression for the Information Technology

Linear regression was performed to determine whether information technology affects implementation of knowledge management in ADC. An  $R^2$  value of .261 indicates that 26.1% of the variation in Knowledge management implementation can be explained by the model. Hence Information technology can explain 26.1% of the variation in Knowledge management implementation while other factors can explain 73.9%.

**Table 1: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.511 <sup>a</sup>	.261	.257	.36340

a. Predictors: (Constant), Information technology  
b. Dependent Variable: Knowledge management implementation

Table 2 displays the coefficient of the regression model of Knowledge management implementation on Information technology. From the results of the regression model the coefficient for Information technology was significant at 5% level of significance. Therefore, Knowledge management implementation can be predicted using Information technology in the following equation:

$$Y=2.704+.388X3$$

Where;

Y is Knowledge management implementation

X3 is the Information technology

**Table 2: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.704	.193		14.024	.000
	Information technology	.388	.052	.511	7.454	.000

The above equation for regression of Knowledge management implementation on Information technology indicate that a unit increase in Information technology would lead to .388 unit increase in Knowledge management implementation.

### Univariate Linear Regression for the Organizational leadership

Linear regression was performed to determine whether organizational leadership affects implementation of knowledge management in State Corporations. An R<sup>2</sup> value of .265 indicates that 26.5% of the variation in Knowledge management implementation can be explained by the model. Hence Organizational leadership can explain 26.5% of the variation in Knowledge management implementation while other factors can explain 73.5%.



**Table 3: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.515 <sup>a</sup>	.265	.261	.36242

a. Predictors: (Constant), Organizational leadership  
b. Dependent Variable: Knowledge management implementation

Table 4 displays the coefficient of the regression model of Knowledge management implementation on Organizational leadership. From the results of the regression model the coefficient for Organizational leadership was significant at 5% level of significance. Therefore, Knowledge management implementation can be predicted using Organizational leadership in the following equation:

$$Y=3.016+.306X_4$$

Where;

Y is Knowledge management implementation

X<sub>4</sub> is the Organizational leadership

**Table 4: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.016	.150		20.108	.000
	Organizational leadership	.306	.041	.515	7.531	.000

The above equation for regression of Knowledge management implementation on Organizational leadership indicates that a unit increase in Organizational leadership would lead to .306 unit increase in Knowledge management implementation.

### Multivariate Linear Regression Analysis for Joint Effect Tests

Multivariate linear regression analysis was conducted to predict Knowledge management implementation. The independent variables for this study included; Organizational leadership, Communication, Information technology and Training.

An R<sup>2</sup> value of .543 indicates that the model can explain 54.3% of the variation in Knowledge management implementation. Hence Organizational leadership, Communication, Information technology and Training can explain 54.3% of the variation in Knowledge management implementation while other factors can explain 45.7%.

**Table 5: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.737 <sup>a</sup>	.543	.521	.29162

b. Dependent Variable: Knowledge management implementation

Table 6 displays the coefficient of the regression model of Knowledge management implementation on Organizational leadership, Communication, Information technology and Training. From the results of the regression model the coefficients for Training, Communication and Information technology were significant at 5% level of significance. Therefore, Knowledge management implementation can be predicted using Training, Communication and Information technology in the following equation:

$$Y=1.22+.425X1+.362X2+.211X3$$

Where;

Y is Knowledge management implementation

X1 is Training

X2 is the Communication

X3 is the Information technology

**Table 7: Coefficients**

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.220	.261		4.682	.000
Training	.425	.067	.504	6.325	.000
Communication	.362	.057	.104	6.351	.000
Information technology	.211	.069	.124	3.058	.008
Organizational leadership	.063	.057	.105	1.109	.269

The above regression equation revealed that holding Communication and Information technology to a constant zero, a unit increase in Training would lead to .425 increase in Knowledge management implementation. On the other hand holding Training and Information technology to a constant zero, a unit increase in Communication would lead to .362 increase in Knowledge management implementation.

### Summary of major findings

Most of the respondents agreed that they are subjected under constant training that enable them gain work related experiences that help in decision making. Majority of the

respondents agreed to being able to learn new skills through training that is useful for their roles in the office. More than half of the respondents agreed that State Corporations have the intellectual capital it needs. On the other hand, most of the respondents agreed that State Corporations continually expand the capacity of employees to create the results they truly desire. These findings support those of Armstrong and Baron(2003) who documented that training Human Resource is the primary approach to elicit and reinforce employees' knowledge and expertise that a firm requires. The findings also support those of Armstrong(2008) who reported that organizations that effectively manage and leverage the knowledge and expertise embedded in individual minds will be able to create more value and achieve superior competitive advantage.

Two thirds of the respondents agreed that there is effective communication from the top management to people involved in the knowledge management Implementation. Three quarters of the respondents agreed that right channels of communication have been put in place for employees to be able to capture, store and share knowledge. Majority of the respondents agreed that staffs are fully informed of the knowledge management implementation process in State Corporations. However, half of the respondents disagreed to there been well developed Communication system for knowledge management implementation in State Corporations. The findings are in line with those of Straub & Karahanna (1998) who documented that effective and efficient transfer of experiences, insights and know-how among different experts and decision makers is a prerequisite for high quality decision making and coordinated, organizational action. The results also support those of Gratton & Ghoshal (2002) who reported that situations of deliberate knowledge transfer through interpersonal communication or group conversations can be found in many business constellations.

Most of the respondents agreed that State Corporations have the necessary ICT tools for knowledge management implementation. More than half of the respondents agreed to ICT infrastructure been adequate for knowledge management implementation and having the know how to use the ICT systems in State Corporations for knowledge management implementation. The IT systems been compatible to knowledge management implementation needs and not having knowledge management implementations IT systems that are complex and difficult to use was supported by most of the respondents. These findings support those of Apostolou, et al, (1999) who reported that the computer technologies are capable of assisting knowledge seekers and experts engaged in different types of knowledge acquisition process such as socialization, combination, externalization, and internalization.

Majority of the respondents agreed that leaders participates in ensuring knowledge management implementation while more than half agreed to leaders doing proper

delegation of knowledge management implementation roles to qualified personnel. Majority of the respondents agreed that leaders in State Corporations take part at all stages and levels in the knowledge management implementation process and that critical resources required in implementing knowledge management initiatives are made always made available by the leaders. Three quarters of the respondents agreed that State Corporations have a formal knowledge management implementation structure and policy. The findings confirm those of Trompenaars & Hampden-Turner(2004) who proposed that Knowledge Management (knowledge management) is a process that requires that investment and relationship to exist on a deeper level of motivation.

knowledge management implementation has helped improved quality of services in State Corporations was agreed upon by most of the respondents while three quarters agreed that knowledge management implementation has ensured improved productivity of employees. Most of the respondents agreed that State Corporations have been able to gain competitive advantage over other competitors due to knowledge management implementation and that knowledge management implementation has enabled them save time in handling their duties.

## **Conclusion**

The study was aimed at assessing the influence of training, communication, information technology and leadership on the implementation of Knowledge Management in State Corporations a case of African Development Corporation (ADC). It was guided by four specific objectives including; to determine whether Training affects implementation of knowledge management in State Corporations; to assess the influence of communication on the implementation of knowledge management in State Corporations; to find out the effect of information technology on the implementation of knowledge management in State Corporations; and to establish the influence of organizational leadership on the implementation of knowledge Management in State Corporations a case of(ADC).

Results from regression model of knowledge management implementation on organizational leadership, communication, information technology and training revealed that the coefficients for training, communication and information technology were significant at 5% level of significance. Therefore, knowledge management implementation can be predicted using training, communication and information technology. However, the coefficient for organizational leadership was not significant. These findings contrast those of a study conducted by Andersen and The American Productivity and Quality Center (APQC) (1996)that revealed that one crucial reason why organizations are unable to effectively leverage knowledge is because of a “lack of commitment of top leadership to sharing organizational knowledge or there are too few role models who exhibit the desired behavior”. However, the study partially support that

of Liebowitz (1999) who proposed six key ingredients for making knowledge management successful in organizations including; support of senior management, a chief knowledge officer (CKO) or equivalent and a knowledge management infrastructure, knowledge ontologies and repositories, knowledge management systems and tools, incentives to encourage knowledge sharing and supportive culture.

### **Recommendations**

The following recommendations were drawn from the findings of the study:

**Improve Overall Information Environment:** This refers to information-related features of the physical environment in which access to knowledge management information takes place. These include; information policy and regulations, general ICT infrastructure of the organisations, and information culture of the organisations. Specific instances of the characteristics of the information environment hindering implementation of Knowledge Management include the following: inadequate supportive information policies and regulations; inadequate skilled personnel/technical support and lack of best communication practices.

**Involve employees.** Organisations should give employees visibility into how they impact implementation of Knowledge Management. Organisations should create programs that link to implementation of Knowledge Management and corporate objectives and communicate the same to their employees.

### **Areas of further study**

This study had some limitations. It confined its focus to one organization, African Development Corporation (ADC). Hence, future research should examine the determinants of knowledge management implementation with a larger sample incorporating most state corporations.

Whereas this research has relied on quantitative approaches to examine the determinants of knowledge management implementation, an in-depth analysis of individual responses can generate useful inductive information and provide a richer understanding of the determinants of knowledge management implementation.

### **REFERENCES**

- Akhavan, P., Jafari, M., Fathian, M. (2006) Critical success factors of Knowledge Management systems.
- Al-Athari, A., &Zairi M. (2001). Building Benchmarking Competence through Knowledge Management capability, *An international journal*, 8(1), 70-80.
- Alavi, M., Kayworth,R.T., and Leidner, D.E. (2005) An Empirical Examination of the Influence of Organizational Culture on Knowledge Management Practices, *Journal of Management Information Systems*, 22(3): 191 – 224

- Alila, P. & Atieno, R. (Marc, 2006). *Agricultural Policy in Kenya: Issues and Processes*. A paper for the Future Agricultures Consortium Workshop, Institute of Development Studies, University of Nairobi.
- Alrawi, A. K. (2007). Knowledge Management and the organizations perception, *A Review journal of knowledge management practice*, 8(1), 32-48.
- Andersen A. and The American Productivity and Quality Center, (1996). *The Knowledge Management Assessment Tool: External Benchmarking Version*, Winter
- Armstrong, M. & Baron A., (2003). *Strategic HRM: The key to improved business performance*, CIPD, And Lord ; XVIII
- Armstrong, M. (2009). *Handbook of Human Resource Management Practice* (11<sup>th</sup>ed.). London: Kogan Replica Press.
- Armstrong, M., (2008). *Strategic Human Resource Management A guide to action*, 4<sup>th</sup> edition, Kogan Page London.11
- Asiamah, E., & Kandadi, R. (2006). Assessing the knowledge management capability of the Ghanaian Public Sector through the "Bcpi Matrix". A case study of the Value Added Tax (vat) Service. Retrieved October 12, 2010.
- Becky, M., & Zachary, M. (2010). Knowledge Management: the case for Kenya. *The journal of language, Technology and Enterprise in Africa*, 2(1), 107-133
- Bennett, R., and Gabriel, H. (2009) Organizational factors and knowledge management within large marketing departments: an empirical study. *Journal of Knowledge Management*, 3(3): 212-225
- Bollinger, A., & Smith, R. (2001). Managing organizational knowledge as a strategic asset. *Journal of knowledge Management*, 5(1), 8-18.
- Botha, A., Kourie, D & Snyman, R. (2008). *Coping with continuous change in the business environment. Knowledge management and Knowledge management technology*. Oxford Chandos
- Bukowitz, W., & Williams, R. (1999), *The Knowledge Management Fieldbook*, Financial Times/Prentice Hall.
- Chifallu, J. (2011, August 24). *Varsity linkage to boost knowledge economy*. The Standard, Nairobi: The Standard Group
- Chong, C. & Chong, S. (2009). Knowledge Management Process Effectiveness Measurement of preliminary knowledge management implementation. *Knowledge Management Research and Practice*, 2(1), 79-86.
- Cronbach, L., (1951). Coefficient Alpha and the Internal Structure of Tests. *Psychometrika*, 16(3), 297-334
- Davenport, T., De Long, D., & Beers, M. (1998). Successful knowledge management projects, *Sloan Management Review*, (39) 2, 43-56
- Davenport, T.H., and G. Probst (2002), *Knowledge Management Case Book*. Best Practices, 2nd ed., New York: Wiley.

- Davenport, T.H., D.W. De Longand, and M.C. Beers (1998), "Successful knowledge management projects", *Sloan Management Review*, 39 (2), pp. 43-57.
- De Gooijer, J. (2000). Designing a Knowledge Management Performance Framework, *Journal of knowledge management*, 4 (4), 303-310
- Drucker, P., (1993). *Post Capital Society*. New York: Harper and Collins
- Earl, M. & Scott, I. (2000). The Role of the Chief Knowledge Officer. In D. A. Marchland, T.H. Davenport & T. Dickson(Eds), *Mastering Information Management: Your single source guide to Becoming a Master of Information Management*. London Financial Times.
- Fowler, A., & Pryke, J (2003). KM in Public Service Provision: The Child Support Agency. *International Journal of Service Industry Management* 14(3), 254-328
- Gamble, P.R., & Blackwell, J. (2001), *Knowledge Management: A State of the Art Guide*, Kogan Page Ltd.
- Gardiner, P., & Whitting, P (1997). Success Factors in Learning Organizations: an empirical study. *Industrial and Commercial training*, 29(2), 41-48
- Gold, A.H., Malhotra, A., and Segars, A.H. (2007) Knowledge management: an organizational capabilities perspective. *Journal of Management Information Systems*, 18(1): 185-214.
- Government of Kenya, (2009). State Corporations Act (CAP 446)
- Haldin-Herrgard, T.(2000). "Difficulties in Diffusion of Tacit Knowledge in Organizations", *Journal of Intellectual Capital*, Vol.1 Iss: 4, pp.357-365
- Hecht, M., Maier, R., Seeber, I., and Waldhart, G. (2011), "Fostering adoption, acceptance, and assimilation in knowledge management system design", in: Lindstaedt, S., Granitzer, M.: *i-KNOW '11 - Proceedings of the 11th International Conference on Knowledge Management and Knowledge Technologies*. Graz, Austria - September 07-09, New York: ACM Digital Library, ISBN 978-1-4503-0732-1, pp. 1 - 8.
- Kimberlin, C & Winterstein, G. (2008). Research Fundamentals: Validity and Reliability of Measurement instruments used in research. *American journal of Health-System Pharmacy*, 65 (23), 2276-2284
- Kothari, C. (2004). *Research Methodology: Methods and Techniques*. New Delhi: New Age International
- Kothari, C.R. (2008). *Research Methodology: Methods and Techniques* (2<sup>nd</sup>ed.). New Delhi: Vishwaprakashan.
- Leedy, P., & Ormod, J. (2001). *Practical research: Planning and Design* (7<sup>th</sup>ed.) Upper Saddle River, NJ: Saga Publications
- Leyla, T.(2001). Using Statistical Package for Social Sciences (SPSS)
- Liebowitz, J. & Chen, Y. (2003). Knowledge sharing proficiencies: the key to knowledge management in Hosapple. In C.W. (Eds.), *Handbook on knowledge management: Knowledge matter*. Berlin: Springer-Verlag Press.

- Liebowitz, J. (1999), "Key ingredients to the success of an organization's knowledge management strategy", *Knowledge and Process Management*, 6 (1), pp.37-40.
- Maingi, N. N. (2007). Knowledge Management in a competitive Economy: *The Knowledge Management Readiness Score (KMS)*. Retrieved July, 20 2012 from <http://www.stratcmore.edu/news/knowledge-mngt.php>.
- Mathi K. (2004), *Key Success Factors For Knowledge Management, Lindau, Germany*, MBA: International Business Management& Consulting.
- McAdam, R.,&O'Dell, C.(2000). A comparison of public and private sector perceptions and use of knowledge management. *Journal of European Training*, 24 (6), 317-329.
- Moffett, S. McAdam, R., & Parkinson, S. (2003). An Empirical Analysis of Knowledge Management Applications.*Journal of Knowledge Management*, 7(3),6-26.
- Moreno, M., & Vergas, A(2004). *Thalec: a Model for Internal Knowledge Management in Public Administrations, Situations of Entrepreneurship, Business Creation, Human Resource Management and Family Business Perspectives*. Selected papers from the xv Spanish-portuguese Meeting of Scientific Management.University of Seville (Spain).
- Mosoti, Z. &Masheka, B. (2010). Knowledge Management: The case for Kenya. *The journal of language, Technology & Entrepreneurship in Africa*.Vol.2. No. 1.2010, ISSN 1998-1279 107.
- Moya, K. (2010). Knowledge Management: The essence of the competitive edge
- Mugenda O., &Mugenda, A. (2003).*Research Methods: Quantitative and Qualitative Approaches*. Nairobi: African Centre of Technology Studies
- Mugenda, O. (2008). *Research for Social Scientist*. Nairobi: Acts Press
- Mugenda, O., &Mugenda, A. (2003).*Research Methods: Quantitative and Qualitative Approaches*. Nairobi: Acts Press.