



**EFFECT OF EMPLOYEE KNOWLEDGE SHARING ON ORGANIZATIONAL PERFORMANCE IN PUBLIC UNIVERSITIES IN KENYA, CASE OF UNIVERSITY OF NAIROBI**

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**ABSTRACT**

The main aim of this proposal was to investigate the effect of knowledge sharing on organizational performance of Kenyan public universities. The study was guided by the following research objectives: To determine the effect of knowledge communication on organizational performance, to investigate the effect of knowledge collaboration on organization performance, at public universities in Kenya. This research was guided by both the knowledge management model and knowledge sharing model. The study adopted a descriptive approach employing cross sectional survey design. The target population included all university of Nairobi main campus staff, while the sample population was 140 respondents. The study collected primary data. A semi-structured questionnaire comprising both open-ended and close-ended questions was used to collect data. Data was summarized, edited, coded, tabulated and analyzed. Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 21. These measures were used to describe the characteristics of the collected data. The study found out that Organizational change helps an organization to optimize processes and define process oriented structure; in that case employee knowledge sharing can be adopted correctly within the organization. Effective employee knowledge sharing cannot be implemented without a significant behavioural and cultural change. The study recommends that universities should put more emphasis on training and information sharing in order to improve employee knowledge sharing.

**Key Words:** *Knowledge Sharing, Organizational Performance*

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## INTRODUCTION

### Background of the Study

Knowledge sharing is aimed to do something useful with knowledge. Improving knowledge sharing is made in two dimensions: one dimension is managing the existing knowledge including the development of knowledge repositories (memos, reports and articles), and knowledge compilation. Another dimension is managing knowledge-specific activities, that is, knowledge acquisitions, creation, distribution, communication, sharing and application (Stenmark, 2001). Providing the effective strategies in support of knowledge-sharing actions is truly fundamental, however it is only realizable by understanding the factors that make the knowledge transfer process easy (Chaudhry, 2011). He added that knowledge sharing is the main key to the success of all knowledge management strategies. Hsiu-Fen (2010) explored this component and came out with this explanation; "knowledge sharing is the act of capturing, organizing, reusing, and transferring experience-based knowledge that reside within the organization by making it available to others in the business". According to Jones et al. (2010), changing employee attitudes determine the promotion of knowledge sharing within an organization. Hsiu-Fen (2010) stated that one of the vital characteristics of knowledge sharing is that it is capable in generating new ideas and developing new business opportunities through socialization and learning process of knowledge workers. Thus, how to make use of knowledge in order to create the greatest value is becoming the central concern and debate in the new economy. Many researchers have attempted the issue by identifying the salient features of the knowledge-based economy and formulating various strategies to capture and create a new source of competitive advantage in the new society.

Around the world, studies have identified many factors affecting knowledge sharing capabilities either in public or private sectors. In the United States, one of the key benefits of introducing knowledge sharing practices in organizations is its positive impact on organizational performance. The research conducted in the University of Colorado suggests that knowledge sharing positively affects organizational outcomes of company innovation, product improvement and employee improvement (O'Neill et al, 2012). According to O'Neill et al, (2012), results collected in a logistics operations context prove the existence of a strong positive relationship between a knowledge sharing process and operational and organizational performance. Still, it is not well understood how different KM strategies affect organizational performance. O'Neill et al, (2012) show that combining the tacit-internal-oriented and explicit-external-oriented knowledge sharing strategies indicates a complementary relationship, which implies synergistic effects of knowledge sharing strategies on performance. The results of the case suggest that knowledge sharing fully mediates the impact of organizational culture on organizational effectiveness, and partially mediates the impact of organizational structure and strategy on organizational effectiveness.

In a recent case study conducted in South Africa, organizational elements were considered to be the second component of knowledge sharing as organization itself is important for establishing any form of new activities and processes for managing knowledge (Gick, & Holyoak, 2011). Based on research [36], two elements form the IT component of knowledge sharing: the first element is the ability of IT to capture knowledge and the second element is usage of IT tools. First, the importance of IT systems designed to capture and store tacit or explicit knowledge will be stressed (Lesser & Storck, 2011). Formalizing

knowledge and storing it into applications allows a company to start the knowledge transformation cycle and the process of reshaping tacit knowledge into explicit knowledge (Gick, & Holyoak, 2011). Secondly, the usage and quality of IT tools, the quality of information, user satisfaction, rate of usage, efficiency and accessibility, are also very important for managing knowledge.

### **Profile of the University of Nairobi**

The University of Nairobi is a body corporate established under the Universities Act 2012 of the Laws of Kenya and the University of Nairobi Charter. It is the pioneer institution of university education in Kenya and the region. The only institution of higher learning in Kenya for a long time, the University of Nairobi responded to the national, regional and Africa's high level manpower training needs by developing and evolving strong, diversified academic programmes and specializations in basic sciences, applied sciences, technology, humanities, social sciences and the arts. Through parallel degree programmes, invaluable opportunity has been opened to thousands of Kenyans and foreigners, on a paying basis, who meet university admission requirements, but who have not been able to access university education due to restricted intake into the regular programmes that is determined by limited resource allocation by Government

### **Statement of the Problem**

The global economy is moving from physical labor to knowledge based. As part of the realignment and embracement of the knowledge —driven economic culture, many organizations are investing in knowledge and information, making them a knowledge-intensive firms (Stenmark, 2001). According to Lo'pez, (2011). Universities are regarded as one of the critical sources of the most valuable assets in the knowledge economy and thus regarded as an engine of innovation. On

a broader perspective, this corroborates the literature by O'Neill et al, (2012) that Universities are indeed widely cited as a critical institutional actor in national innovation systems worldwide. Innovation thus is regarded as one of the prime employee-related indicators of measuring overall performance of universities.

In the recent past, the expansion in higher education sector in Kenya has been tremendous due to the rising demand of higher education. According to O'Neill, Beauvais and Scholl, (2012), the rising demand has made Kenya's higher education sector the largest higher education systems in Africa. However, notwithstanding this expansion, the capacity of the higher education and universities in Kenya is still limited (Ngolovoi, 2009). In terms of the innovation capacity earlier mentioned, this supports the findings by Smith and Farquhar, 2010; Jashapara, 2011; Haas and Hansen, (2011) shows that Universities are deficient in terms of research and development. Further pointer to marginal performance of universities in achieving its bottom line objectives was advanced in a report by Bryant (2011) that many universities have the capacity to carry out research and development but on the practical side, this has not been happening.

To the best of the researcher's knowledge, this should be the first research to have attempted analysis the relationship between knowledge sharing and organizational performance in public universities in Kenya. Initially, this study was derived from a suggestion for future research in studies of tacit knowledge by Chen and Edgington, (2011). These studies suggested that future research should explore the mechanisms through which tacit and explicit knowledge are captured and passed on to others in order to develop the full capacity of managers; at the same time, losing knowledge will impact on the organization. This research paper is designed to fill the gap in the literature and to address some

of the hidden issues in literature, such as: Can we expect university employees to be knowledge sharers by nature? Do they share all the knowledge they possess? What types of knowledge are shared among the employees in public universities in Kenya?

### **Overall Objective**

The key objective was to determine the effect of knowledge sharing on organizational performance of Kenyan public universities. This was supported by the objectives that to determine the effect of knowledge communication and knowledge collaboration on organizational performance at public universities.

### **Research questions**

- i. How does knowledge communication affect organizational performance at public universities?
- ii. How does knowledge collaboration affect organizational performance at public universities?

### **Scope of the Study**

This case is limited to the effect of knowledge sharing at the University of Nairobi. The case investigated various variables in sharing of knowledge in public universities like knowledge communication and knowledge collaborations among the employees in public universities in Kenya. This case mainly focused on the effect of knowledge sharing on organizational performance in public universities in Kenya specifically the University of Nairobi.

According to the Commission for Higher Education Directory (2012/2013), the University of Nairobi has approximately 6,000 members of staff who are spread across the six colleges and various campuses and centers being located in different parts of the country and thus will be assumed to represent the views of the Universities in Kenya

administration, students and employees spread out in the country.

## **LITERATURE REVIEW**

### **Conceptual Framework**

Gick, and Holyoak, (2011) suggest that knowledge infrastructures such as technology, structure and culture along with knowledge acquisition, conversion, application and protection are essential organizational capabilities for higher organizational performance. The conceptual framework outlined below shows the knowledge sharing and organizational performance among public Universities in Kenya.

An organization is a social system of individuals who are required to work collectively and collaboratively on accomplishing a common goal (Alavi and Tiwana, 2002). Collaboration in work settings is defined by Aram and Morgan as “*the presence of mutual influence between persons, open and direct communication and conflict resolution, and support for innovation and experimentation*” (Aram and Morgan, 1976). Collaboration is an essential part of team work and an effective collaboration leads to an effective team outcome (Aram and Morgan, 1976). To collaborate effectively, the knowledge that is distributed among team members must be properly and adequately integrated (Gray, 2010). In virtual team setting, integrating knowledge to achieve an effective collaboration is challenging as knowledge is distributed among physically separated team members. Based on this review the following research questions can be formulated. *How does knowledge communication affect organizational performance?.....Research question 1*

Organizational learning has emerged as an area vital for a company's competitive position. By making use of internal knowledge and capabilities the whole company can become more efficient and successful. The transfer of what is termed

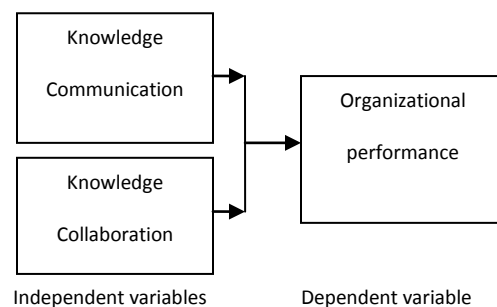
'best practices' is one management practice that has been heavily stressed since the latter half of the 1990s (Szulanski, 1996, p. 27). However, Szulanski states that it is not only 'best practices' that must be the focus, all kinds of internal capabilities that can facilitate competitive advantages should be transferred and applied widely within the organization.

A best practice is a rather broad and vague term, defined by Szulanski (1996) as "*dyadic exchanges of organizational knowledge between a source and a recipient unit in which the identity of the recipient matters*". *Transferred, of the source, of the recipient, and of the context* in which the transfer takes place. Within the HRM field scholars have started to take an interest in these knowledge processes, exploring, for example, how different governance mechanisms may facilitate intra-organizational knowledge transfer (Foss, 2007), how the HRM architecture influences knowledge stocks and flows between different employee groups (Kang et al., 2007; Lepak & Snell, 2002; 1999), and how HRM practices may be used to overcome knowledge-transfer barriers or to increase absorptive capacity (Minbaeva, 2005; Minbaeva et al., 2003). Successful knowledge transfer requires high level of individual motivation so that knowledge seeker and knowledge provider openly share and accept it because both motivational factors and knowledge sharing has significant and major effect on performance (Hendriks, 1999). By bringing social network theory into individual performance, for the first time it theoretically proves that knowledge sharing interacts with motivational factors and effect individual performance. Fourth, a very important contribution of this research is the explicitly described nature of the variables. This contribution is very prominent because knowledge sharing literature has noticed the importance of individual performance in understanding motivation (Szulanski 1996; Goodman and Darr, 1996).

In his research referred to in this paper, Szulanski (1996) is discussing the concept of internal stickiness which concerns the difficulty of transferring knowledge within the organization. The concept of "sticky information", presented earlier in this chapter, is also highlighted as an important dimension when discussing transfer of internal knowledge and capabilities. Based on previous research Szulanski (1996) presents four factors that affect the difficulty of knowledge transfer: *characteristics of the knowledge*. Based on this review the following research questions can be formulated.

*How does knowledge communication affect organizational performance? .....Research question 4*

In summary the basic objective of the knowledge sharing is to transfer knowledge in organization from person to person, individuals have to share their experiences to and from their colleagues and team members (Madsen, Mosakowski, & Zaheer, 2003). Social Network theory indicates that networks across people are associated with performance related outcomes (Burt, 1992). If people are more connected with each other, they like superior career mobility, enjoy getting high positions and adapt the environmental changes very quickly (Podolny & Baron, 1997; Gargiulo & Benassi, 2010; Podolny). The snap of these theoretical and empirical underpinning results to the following variables and the casual paths illustrated in the following conceptual framework in figure 2.1.



## Figure 1: Conceptual framework

### Theoretical Framework

#### Organization Performance

Measuring organizational performance is comparing the expected results to actual results, investigating deviations from plans, assessing individual performance and examining progress being made toward meeting the targeted objectives (Hsiu-Fen, 2010). In an institution the knowledge management model which is basically based upon knowledge sharing through constant and open communication (often SME strength) – the making explicit of often buried or tacit knowledge held by all employees. Gick, & Holyoak, (2011) emphasize that knowledge infrastructures such as technology, structure and culture along with knowledge acquisition, conversion, application and protection are essential organizational capabilities for higher organizational performance.

Knowledge sharing is a reciprocal process of knowledge exchange and examines factors that help explain why individuals are willing to engage in this process. Knowledge sharing is a fragile process. Most of researchers report that knowledge sharing improves organizational performances (Lesser & Storck, 2011), promoting competitive advantage (Argote & Ingram, 2010), organizational learning, innovation and even survival (Baum & Ingram, 2007).

Every employee in the organization has knowledge embedded in their mind as tacit knowledge which is very sticky to be extracted directly (Ipe, 2013). As more and more companies realizing that knowledge sharing gives them a competitive edge by leading to accelerated learning and innovation, this particular activities of knowledge management is becoming important to organization (Ipe, 2013). For organization, knowledge sharing is capturing, organizing, reusing and transferring experience based

knowledge that reside within the organization and making that knowledge available to others in the business. The interesting characteristics of knowledge is that its value grows when shared (Bhirud et al, 2011).

However, sharing knowledge is not that easy. When knowledge is regarded as power, individual would be reluctant to share his knowledge (Kinsey, 2007) especially the tacit knowledge; when they perceive that there a few rewards or when sharing is not recognized by the organization (Wah et al. 2011). It is very important for the organization to provide a conducive organizational to encourage knowledge sharing where knowledge sharing represents a key enabler of improved business performance. Another important element in knowledge sharing is network which encourages people to work less formally; therefore relationships relying more on cooperation and collaboration (Laycock, 2011). As shown in the case of Buckman Laboratories, which proven that human networks, not IT networks as fundamental of effective knowledge sharing.

Knowledge that resides in groups, teams or communities is a key source of under-leveraged know-how in most organizations. Communities of practice (CoP) are the nexus for sharing and transferring of valuable tacit knowledge possessed by individuals and groups (Kogut & Zander, 2012; Lesser & Storck, 2011) and they provide firms with a vital source of organizational learning and incremental innovation as community members improve their practice through the continuous creation of knowledge (Wenger, 2008). This transfer of tacit knowledge is actually not to codify it but rather to be shared. In smaller setting where CoP exist, the interaction is primarily in informal face-to-face discussions (Lave & Wenger, 2011).

### **Knowledge Communication**

Knowledge communication is the (deliberate) activity of interactively conveying and co-constructing insights, assessments, experiences, or skills through verbal and non-verbal means (Stock, & Cervone, 2010). Knowledge communication has taken place when an insight, experience or skill has been successfully reconstructed by an individual because of the communicative actions of another. Knowledge communication thus designates the successful transfer of know-how (how to accomplish a task), know-why (the cause-effect relationships of a complex phenomenon), know what (the results of a test), and know-who (the experiences with others) through face-to-face (co-located) or media-based (virtual) interactions. This type of knowledge communication can take place synchronously or asynchronously. The first mode of communication refers to (often face to face) real-time interactions, while the latter designates delayed (usually media-based) interactions (Stock, & Cervone, 2010).

Strategy consultants present the findings of their strategic company assessment to the board of directors in order to devise adequate measures (Zander & Kogut, 2011). What these diverse situations all have in common is the problem of knowledge asymmetry (Sharma, 2012) that has to be resolved through interpersonal communication. While the manager typically has the authority to make strategic or tactical decisions, he or she often lacks the specialized expertise required to make an informed decision on a complex issue (Shen, 2011). Because of the wide scope of decisions that need to be made, a manager frequently has to delegate the decision preparation to experts who – based on their professional training and previous experience – can analyze complex situations or technological options in a more reliable manner. The results of such analyses then need to be communicated

back to the manager, often under considerable time constraints (Ptaszynski, 2012). The knowledge communication challenge, however, begins long before that, at the time when the manager has to convey his or her knowledge needs and decision constraints to the experts in order to delegate the analysis task effectively.

### **Knowledge Collaboration**

Knowledge collaboration contributes to the development of scientific knowledge can be assessed by considering four different kinds of collaboration in the light of Alvin Goldman's five standards for appraising epistemic practices. There are at least four different kinds of knowledge collaboration, reflecting the different backgrounds and roles of the collaborators. That is the; employer/employee, teacher/apprentice, peer-similar and peer-different (Ptaszynski, 2012). Of course, the boundaries between these four kinds of collaboration can blur. A clever employee can turn into an apprentice, and a successful teacher/apprentice relationship should gradually become closer to a peer-similar collaboration. Researchers from disparate fields may start out as peer-different but become more similar as each learns more about the other's field. But these four different kinds of collaboration provide a start at addressing the question of what makes collaboration worthwhile (Ptaszynski, 2012).

The primary goal of knowledge collaboration is to “improve organizational performance by enabling individuals to capture, share, and apply their collective knowledge to make optimal decision in real time” (Smith & Farquhar, 2010). Knowledge collaboration is much more than technologies for information sharing and collaboration: it also includes the creation and sustainment of communities of practice, coping with behavioral and cultural aspects of people, and creating trusted and validated content (Smith & Farquhar, 2010). Knowledge management and organizational learning are related. The



management of knowledge includes creation and sharing of knowledge, which is a constituent of learning. However, learning also involves the decision to change future action, which is typically considered a (possible) outcome of knowledge management.

Furthermore, the policies and ways in which collaborative knowledge management tools are used can facilitate or impede organizational learning; the use of tools changes organizational practice, and an explicit awareness of how tool use can best bring about the desired effects is critical. Indeed, the management of technology and the practices of using technological artifacts are always critical issues (Kuhn & Yockey, 2003; Hsiu-Fen 2010). For example, the most important part of Live Link deployment to an organization is how that organization configures live Link for its own use. This goes beyond the mere setting of software parameters by the system administrator; it also crucially includes the development of new ways of working new procedures and policies that may be mandated from above by management, may grow “naturally” and haphazardly by the workers, or may be some mixture of the two (Kuhn & Yockey, 2003). Another issue relates to organizational culture: because learning implies that past performance needs to be improved, an organization must be willing to admit to changing circumstances, less than optimal past performance, or some level of failure. Culture is a difficult issue because it is tacit and tightly linked to the identity of individuals and the organization, although there are plenty of overt manifestations of culture such as style of dress, typical working hours, décor, jargon, myths, and so on (Harrison, 2011).

Organizational culture and structure affects individual behavior in a variety of ways (O'Neill, Beavais, & Scholl, 2012) and may include a number of barriers to the appropriation of technology (Ptaszynski, 2012). For example, if

technology is seen as a crutch to support incompetent people or as an unnecessary inconvenience for competent people, it will probably not be adopted. The usability of the technology also is an important issue; poor usability can easily be a barrier to widespread adoption and use of new technologies.

### **Empirical Framework**

Bierly & Chakrabarti (1997), did a study on relationship between knowledge processes and organizational performance the purpose of these studies is to sharpen the understanding of the effect of knowledge processes on organization performance. Their emphasis was on the relationship among knowledge enablers, processes and organizational performance. The study found out that flexibility can accommodate better ways of doing things. Therefore; the increased flexibility in an organizational structure can result in increased creation of knowledge. Formality stifles the communication and interaction necessary to create knowledge within an organization.

Additionally, systems connection had a similar impact on organizational performance as employees were found to be well-versed internally and externally with their surrounding environments and were able to establish link between the two (Akhtar et al., 2012). Accordingly, the remaining dimensions of organizational learning do not have positive effect on organizational performance. Continuous learning has greater impact on individual, rather than organizational performance. While team learning mediates organizational performance, it does not directly influence it. Furthermore, Akhtar et al. (2012) also elaborated that the employees in studied PIHEs rely on leadership to execute decisions as opposed to being empowered to make their own decisions, potentially due to the lack of experience and knowledge to do so.

### **Critique of the Literature**

Not much literature review or company includes knowledge sharing as part of its key components as knowledge sharing is considered as difficult to measure. The major problems of knowledge sharing are to convince, coerce, direct or otherwise get people within organization to share their information. For organization, knowledge sharing is capturing, organizing, reusing and transferring experience-based knowledge that reside within the organization and making that knowledge available to others in the business. The interesting characteristics of knowledge is that its value grows when shared. Knowledge sharing can take place at anytime, anywhere in the organization. Wah et al (2011) believe that an individual will only involve in knowledge sharing if such conditions exist, namely opportunities to do so, communication modality, expectation of the benefits of members accrue, expectation of the cost of not sharing knowledge, context compatibility for those who shared, motivation is crucial precondition for knowledge sharing, personal compatibility and liking and opportunism.

As knowledge is very personal and very valuable, organization should concentrate on utilizing and capitalizing its tacit knowledge sharing. It is argued that the most effective means to transfer valuable tacit knowledge is actually not to codify it but rather to transfer it through an implicit mode. Knowledge can be either knowledge embodied or knowledge embedded. Embodied knowledge resides in the people minds while knowledge embedded is shown in products, processes or documents. The value of knowledge sharing is only known through its outcomes - innovation and organizational performance. Gold et al (2001) emphasize that knowledge infrastructures such as technology, structure and culture along with knowledge acquisition, conversion, application and protection are essential organizational capabilities for higher organizational performance.

Technology dimensions are part of effective knowledge management include business intelligence, collaboration, distributed learning, knowledge discovery, knowledge mapping, opportunity generation as well as security while structure is important to optimize knowledge sharing process within the firm. And the most significant hurdle of knowledge management or knowledge sharing in particular is organizational culture. Shaping culture is the central of firm's ability to manage its knowledge. Husted et al (2011) reveal that extrinsic motivators such as reward are related to knowledge exploitation while intrinsic motivators such as self-fulfilling task are related to knowledge exploration.

Knowledge sharing can be integrated externally through relational networks those span organizational boundaries that are paramount for superior performance. Knowledge sharing leads to higher organizational performance especially when knowledge sharing capabilities is combined with organizational resources.

### **Research Gaps**

It is becoming increasingly important for organizations to adopt the learning orientation as it could help contribute to organizational success. However, as the capability to learn does not naturally and readily occur within organizations, it is imperative that organizations ensure that resources allocated and efforts made to instill learning within organizations. Accordingly, it is vital that public institutions of higher education, parallel to other organizations, become learning organizations to ensure that organizational objectives are attained. As discussed above, although numerous studies have shown that knowledge sharing has significant impact on organizational performance, there have yet been studies which emphasize the effects of knowledge sharing on organizational performance in public universities in Kenya.

In summary, the existing body of literature is exposed to a number of limitations in terms of scope and context of this work, which this article attempts to address. In terms of context, this paper seeks to address these limitations by exploring the impact of knowledge sharing on organizational performance and how this could affect organizational work output in a developing context. In terms of scope, the paper focuses on university of Nairobi as case study, but its findings are relevant to other public universities due to similarities in cultural and managerial practices. Thus, institutions of higher learning shall be the focus on this study, other than looking at it from the perspective of the University of Nairobi.

## **RESEARCH METHODOLOGY**

### **Research Design**

The study adopted descriptive research design. This design was used because it is convenient and reliable and it helps to reach many people in the target population. According to Kothari 2004, descriptive research takes accuracy as a consideration which minimizes bias and maximizes reliability of the evidence collected. The questionnaire with structured questions was used as the key instrument to collect primary data.

### **Population**

The target population for the study was all the 600 employees of university of Nairobi both academic and non-academic staff at the University of Nairobi. A sample of the total population was used due to the diverse nature of employees in the university. The University of Nairobi has approximately 6,000 members of staff who are spread across the six colleges and various campuses and centers being located in different parts of the country (CUE, 2012). This was used as the sampling frame of this study.

### **Sample and Sampling Technique**

The sample size was obtained from the target population by using Cooper and Schindler, (2003) formula for a target population of more than 1000 and obtained a sample size of 103 respondents

### **3.5 Data Collection**

The study collected both primary and secondary data. In this study, questionnaires were utilized for the collection of primary data and were issued to all respondents. The data was collected from the respondents by filling in the structured questionnaires. The questionnaires were thus the major research tools that were used to conduct this study.

The study exercised care and control to ensure all questionnaires issued to the respondents were received and to achieve this, the study maintained a register of questionnaires which was issued and which was received. The questionnaire were administered using a drop and pick later method.

Secondary data were collected through a review of both theoretical, empirical literatures and corroborating it with the findings from the study. These literature were sourced from various sources such as scholarly journals, books, internet and so on.

### **Data Analysis and Presentation**

Data collected was analyzed through qualitative and quantitative approaches so as to gather as much information as possible regarding the sharing of information in public universities. Data from questionnaires was summarized, coded, tabulated and analyzed. Editing was done to improve the quality of data for coding. Coded data was then fed into the statistical package for social sciences (SPSS) version 21.

Inferentially, multi-linear Regression Analysis was used to investigate on the relationship between the variables and organizational performance. Multiple linear regression was used because it

attempts to model the relationship between two or more explanatory variables and a response variable by fitting a linear equation to observed data. A simple regression model was used in determining the level of influence the independent variables have on dependent variable as shown below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e$$

Where;

Y = Organizational Performance of Public Universities in Kenya

(Dependent Variable)

- $\beta_0$  = Constant Term
- $\beta_1, \beta_2,$  = Beta coefficients
- $X_1$  = Knowledge Communication
- $X_2$  = Knowledge Collaboration
- $e$  = Error Term

## FINDING AND DISCUSSION

### Response Rate

Out of the 103 respondents, 68 of them participated in the study. This constitutes a response rate of 66 percent. Out of these questionnaires, 57 were considered usable for the study. This accounted for 55.3 percent of the respondents.

### Reliability Analysis

Cronbach Alpha was used to test reliability of the instrument. A coefficient of 0.7 and above shows high reliability of data (Saunders, 2009). The Cronbach Alpha test of the instrument resulted in a value of 0.735 which is greater than 0.7, thus the questionnaires were reliable.

### Gender of the Respondents

The respondents were asked to indicate their gender, the results shows that 56.3% of the respondents were males while 43.7% of the respondents were females. This implies that there were more male respondents than females in the institution.

### Distribution of Age Group

The findings showed that a significant of 32 respondents with a percentage of 53.2% had attained ages from 31 to 40 years, and 40 years and above consisting of 23 respondents with a percentage of 42.8% respectively while 2 of them with a percentage of 3.1% are between 21 to 30 years, this was followed by a small proportion of one respondent with a percentage of 0.9% who was 20 years and below; The age composition shows that most of the respondents were of the 31 to 40 years and therefore had rich experiences, could also appreciate the importance of the study, while those below the age of 30 might not be conversant enough with knowledge sharing due to lack of experience.

### Distribution of Respondents by Level of Education

Majority of the respondents at 45 percent had a first degree (university graduate). Respondents who had attained postgraduate qualifications were 32 percent, 13 percent were graduate from tertiary colleges, while those with secondary qualification were 10 percent. This shows that majority of the respondents had education level capable of understanding the purpose of the study.

### Knowledge Communication

This section covers the questions posed to the respondents on employee knowledge communication. The respondents were asked to rate the extent at which knowledge communication process had impacted on the overall performance of the institution. Mean and standard deviations were used to analyze the respondents rating and the results were presented in table 4.4 below.

### Communication Style

This question sought to find out whether knowledge communication derives success. Majority of the respondents' opinion(s) indicates strong agreement that that communication style drives success, 43% agreed to the study, 28% agreed to a moderate extent; 12% agreed to a small extent; 10% disagreed while 7% were indifferent. This implies that, employees were satisfied with communication style.

This finding supports the study by Gratton & Goshal, (2010), who posits that situations of such interfunctional communication style through interpersonal communication or group conversations can be found in many business constellations. Technology experts present their evaluation of a new technology to management in order to jointly devise a new production strategy.

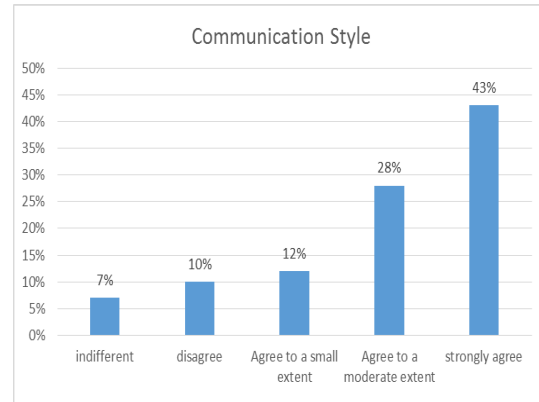


Figure 2: Communication Style

### Conveying and Co-Constructing Insights

This question sought to determine knowledge communication as a deliberate activity of interactively conveying and co-constructing insights, assessments, experiences, or skills through verbal and non-verbal means. Respondents strongly agreed with a mean of 3.96.

### Strategic Company Assessment

The finding showed that 71% respondents of the study strongly agreed that strategy consultants present the findings of their strategic company assessment to the board of directors in order to devise adequate measures, while 28% agreed to a moderate extent. From this analysis, performance of a given institution must be assessed for the employees to express their concerns and opinions about a given development.

### Goals in an Organizational Setup

This question sought to identify the organization process in achieving the goals of diffusion of knowledge within an organizational setup. Majority (55%) of the respondents of the study strongly agreed to the statement; 33% agreed to a moderate extent, while 12% agreed to a small extent. Which according to Ptaszynski, (2012) is an efficient and effective transfer of experiences, insights, and know-how among different experts and decision makers and a prerequisite for high-quality decision making and coordinated, organizational action.

The knowledge communication challenge begins long before the time when the manager has to convey his or her knowledge needs and decision constraints to the experts in order to delegate the analysis task effectively.

### **Interactive Construction and Exchange of Knowledge**

This question sought to the level of interactive construction and exchange of knowledge experiences and skills on a verbal and nonverbal level. Majority (74%) of the respondents' opinion(s) indicates strong agreement that that communication and exchange of knowledge drives success, 17% agreed to a moderate extent, while the rest, 9% agreed to a small extent. According to this analysis, most of the employees in the institution under study do have reviews to interact and exchange knowledge.

### **Professional Knowledge**

The question at this part aimed at establishing, communicating professional knowledge is a key activity for today's specialized workforce. Majority of the respondents (89%) strongly agreed that the institution embrace professional knowledge while 11% moderately agreed. This analysis points out that the management does involve their employees in communicating professional knowledge. This findings conform to a study by Gratton & Goshal, (2010) that communicating professional knowledge is a key activity for today's specialized workforce. The efficient and effective 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.

### **Knowledge on Building Redundancies**

The question at this part aimed at establishing prevention of knowledge through building redundancies. Majority (77%) of the respondents of the study strongly agreed to the statement;

14% agreed to a moderate extent, while 9% agreed to a small extent.

### **Assisting in High-Profile Initiatives**

The statement on whether they proactively contact people and offer assistance for special projects or high-profile initiatives was found to be the very significant. Majority (77%) of the respondents of the study strongly agreed to the statement; 14% agreed to a moderate extent, while 9% agreed to a small extent. The study shows that the employees have influence in providing their services in high profile initiatives

### **Knowledge Collaboration**

#### **Dynamic Boundaries**

The respondents were asked to state the extent to which knowledge collaboration influence organizational performance at the Universities in Kenya. The results are shown in table 4.5 below. From the findings the respondents agreed that all the variables of organizational performance of public universities in Kenya. Specifically; Knowledge communication is the (deliberate) activity of interactively conveying and co-constructing insights, assessments, experiences, or skills through verbal and non-verbal means was by a great extent agreed. Majority (95%) of the respondents of the study strongly agreed to the statement; 2% agreed to a moderate extent, while 3% agreed to a small extent. This according to the study analysis indicate that the organization is taking a step of ensuring that all stakeholders in the hierarchical regardless of the chain of command are involved.

### **Professional Knowledge**

The question on communicating professional knowledge as a key activity for today's specialized workforce. As indicated in the figure below, 87% respondents of the study strongly agreed that

professional knowledge is key to specialized workforce, while 13% agreed to a moderate extent. From this analysis, performance of a given institution must be assessed for the employee's professional capabilities in expressing their output and services to a given development.

**Strategy Consultation**

The question at this part aimed at identifying strategy consultants who present the findings of their strategic company assessment to the board of directors in order to devise adequate measures. 84% respondents of the study agreed that strategy consultation is crucial in order to devise adequate measures, 10% agreed to a moderate extent while 6% agreed to the statement by a small extent. From this analysis, employees can be more willing to operate under consultation from their respective bosses for strategy implementation.

**Creation of New Knowledge**

The study at this part aimed at establishing the extent of creation of new knowledge communication by exchanging existing knowledge. Majority of the respondents' (74%) indicates with a strong agreement that creation of new knowledge drives success, while 24% agreed to a moderate extent. The analysis indicate that, it has assigned competitive employees who are able to do any undertaking in creation of new knowledge.

**Building Redundancies**

Regarding the statement on knowledge communication challenge begins long before the time when the manager has to convey his or her knowledge needs and decision constraints to the experts in order to delegate the analysis task effectively. Majority of the respondents' (67%) indicates strong agreement that that conveying decision constraints to experts for efficiency, 25% agreed to a moderate extent, 6% agreed to a small extent while 2% disagreed.

**Inferential Analysis**

**Correlation Test**

Knowledge communication and knowledge collaboration has a strong relationship because the sample correlation coefficient is a consistent estimator of the population correlation coefficient as long as the sample means, variances, and covariance are consistent.

**Table 1 Pearson Correlation Correlations**

Predictors: Knowledge Communication, K <sub>i</sub> 1.000		
Collaboration Knowledge Communication		
Knowledge	.002	1.000
Collaboration		

**Regression Analysis**

Table 2 is the Model Summary table. This table provides the *R*, *R*<sup>2</sup>, adjusted *R*<sup>2</sup>, and the standard error of the estimate, which can be used to determine how well a regression model fits the data. Analysis in table 2 shows that there exist a very strong positive correlation between the predictors and dependent variables. There is also strong correlation knowledge communication and knowledge collaboration because organizational elements (such as communication, culture, climate and collaboration) have a positive impact on elements of knowledge in the context of knowledge communication. Further coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) *R*<sup>2</sup> equals 0.864; that is, Knowledge Communication, Knowledge Collaboration outsourcing, explain 86.4 percent of the variation on the effect of employee knowledge sharing on organizational performance in public universities in Kenya leaving only 13.6 percent unexplained. The *P*-value of 0.003<0.05) implies that the model of employee knowledge sharing on organizational performance in public universities in Kenya is significant at the 5 percent significance.

**Table 2: Model Summary**

R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F	df1	df2	Sig. F
.929	.864	.842	1.13044	.842	4.261	4	181	.003

a. Predictors: (Constant), Knowledge Communication, Knowledge Collaboration outsourcing.

### Statistical Significance

ANOVA findings ( $F(4, 185) = 4.261, p = .003 < .05$ ) in table 4.13 shows that there is correlation between the predictors variables (Knowledge Communication, Knowledge Collaboration outsourcing effects) and response variable (employee knowledge sharing on organizational performance in public universities in Kenya) hence the regression model is a good fit of the data.

The F critical at 5% level of significance was 4.261. Since F calculated is greater than the F critical; this shows that the overall model was significant. The significance is less than 0.05, thus indicating that the predictor variables, explain the variation in the dependent variable. If the significance value of F was larger than 0.05 then the independent variables would not explain the variation in the dependent variable.

**Table 3: ANOVA**

Model	sum of squares	df	mean square	F	Sig
Regression	21.780	4	5.445	4.261	.003
Residual	231.301	181	1.278		
Total	253.081	185			

a. Predictors: (Constant), Knowledge Communication, Knowledge Collaboration outsourcing.

b. Dependent Variable: Employee knowledge sharing on organizational performance in public universities in Kenya

### Estimated Model Coefficients

The established multiple linear regression equation becomes:

Forecasted employee knowledge sharing on organizational performance in public universities in Kenya = 1.519 + 0.317 Knowledge Communication strategy + 0.207 Knowledge Collaboration outsourcing.

### Where

Constant = 1.519, shows that if Knowledge Communication, Knowledge Collaboration outsourcing, were all rated as zero, employee knowledge sharing on organizational performance in public universities rating would be 0.295

$\beta_1 = 0.317$ , shows that one unit increase in Knowledge Communication strategy results in 0.317 units increase in employee knowledge sharing on organizational performance in public universities in Kenya other factors held constant.

$\beta_2 = 0.207$ , shows that one unit increase in Knowledge Collaboration outsourcing strategy results in 0.207 units increase in employee knowledge sharing on organizational performance in public universities in Kenya other factors held constant.

**Table 4: Coefficients**

Predictors	B	Std. Error	Beta	t	sig
Constant	.295	.190	.243	1.553	.125
Knowledge Communication	.317	.069	.127	4.594	.008
Knowledge Collaboration	.207	.072	.213	2.875	.005

a. Dependent Variable: employee knowledge sharing on organizational performance in public universities in Kenya

### Statistical Significance of the Independent Variables

This tests whether the Unstandardized (or standardized) coefficients are equal to 0 (zero) in



the population. If  $p < .05$  then, one can conclude that the coefficients are statistically significantly different to 0 (zero). The corresponding  $p$ -value respectively, indicates that all independent variable coefficients are statistically significantly different from 0 (zero), that is each independent variable is linearly related to the dependent variable. A two predictor model could be used to forecast employee knowledge sharing on organizational performance in public universities in Kenya.

### **SUMMARY OF THE FINDINGS**

The main intention of this study was to investigate and prove the existence the effect of employee knowledge sharing on organizational performance. Although researchers often imply this positive effect of knowledge management on organizational performance, the researches that empirically prove the existing link are very rare.

#### **Knowledge Communication**

The most important finding is that knowledge management components positively affect organizational performance. In order to have a positive effect on organizational performance, those four components need to be developed, managed and integrated into organizational processes and practice. From this analysis, performance of a given institution must be assessed for the employees to express their concerns and opinions about a given development.

The study found out that Project leaders need to present their results to the upper management and share their experiences of past projects in order to assess the potential of new project candidates. This finding supports the study by Gratton & Goshal, (2010), who posits that situations of such interfunctional communication style through interpersonal communication or group conversations can be found in many

business constellations. 71% respondents of the study strongly agreed that strategy consultants present the findings of their strategic company assessment to the board of directors in order to devise adequate measures. Performance of a given institution must be assessed for the employees to express their concerns and opinions about a given development.

The empirical research proved that employee knowledge sharing heavily relies on knowledge communication. However, the study findings shows that the organization have experienced difficulties in effectively using knowledge communication. In order to have a positive impact on elements of knowledge, information technology needs to be introduced through a set of organizational changes.

#### **Knowledge Collaboration**

The study found out that knowledge collaboration is the (deliberate) activity of interactively conveying and co-constructing insights, assessments, experiences, or skills through verbal and non-verbal means. In practice it means that introducing information technology is successful and has a positive impact on organizational performance only if it is backed up by changes in people, organizational climate and organizational processes. Farquhar, (2010) posit that knowledge collaboration is much more than technologies for information sharing and collaboration.

Employees can be more willing to operate under consultation from their respective bosses for strategy implementation. Consultation should focus on aligning the knowledge management strategy of the organization to the overall business strategy of the organization. The culture and managing the culture change when implementing knowledge management are also of utmost importance.

## **Conclusions**

Empirical data show that organizational elements (such as communication, culture, climate and collaboration) have a positive impact on elements of knowledge in the context of knowledge communication (first objective). Organizational change affect the degree of knowledge sharing and application and consequently improve the practices of employee knowledge sharing.

The positive indirect effect of knowledge collaboration on knowledge management adoption through organizational elements was also confirmed in objective two. Therefore, the study highlights some of the issues raised by knowledge collaboration to improve employee knowledge sharing. The codification of knowledge in information systems, databases and knowledge repositories does not guarantee efficient employee knowledge sharing, but has a potential to influence it in a positive way. It is important to notice that knowledge transfer does not have a direct influence on knowledge, but an indirect one through organizational elements as an enabler of a better collaboration among people in the organization, motivation of people in the organization and the process view of the organization.

## **Recommendations**

From the research findings and the subsequent conclusions, the following recommendations could be made:

1. The study recommend that universities should put more emphasis on training and information sharing in order to improve employee knowledge sharing, institutional setup and communication command chain should be automated so as to reduce the error rates and discrepancies in the process efficient organizational process could be used as competitive advantage to the institution.
2. This research identified two occasions where performance deteriorated due to the loss of tacit knowledge from the organization. This can be very costly to an organization and may even be irrecoverable. It may be possible to find ways of measuring and potentially mitigating tacit knowledge loss from an organization.

### **Suggestion for Further Study**

Further research is also possible. First of all the survey could be repeated to compare the results and to check the improvement. Besides that the same investigation could be performed in other countries to compare the results and to check how employee knowledge sharing is developing.

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