



## KNOWLEDGE SHARING STRATEGIES AMONGST ACADEMICS IN INSTITUTIONS OF HIGHER LEARNING, KENYA

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Article History: Received on 24<sup>th</sup> May 2020, Revised on 12<sup>th</sup> August 2020, Published on 18<sup>th</sup> September 2020

### Abstract

**Purpose of the study:** The study investigated strategies and the integration of technology in knowledge sharing amongst academics in selected institutions of higher learning in Kenya.

**Methodology:** The study utilized a descriptive survey design and adopted a qualitative approach. Semi-structured interview schedules were used to collect data from a sample of four public universities from which 54 respondents were purposely selected and successfully interviewed. The collected data was analyzed thematically.

**Main Findings:** The findings of the study revealed that universities shared knowledge through various strategies/forums such as conferences, teaching, seminars, workshops, mentorship of the novice by the experts, especially in the science-based disciplines and institutional repository, among others. The study identified the existence of communities of practice, which were mainly informal, and policies were the primary inhibitor to knowledge sharing. The study established the integration of information technology in knowledge sharing as mostly asynchronous.

**Applications of this study:** The study findings can be applied in both the public and private sectors. They contribute to research in Knowledge Management as a discipline and as a business strategy.

**Novelty/Originality of this study:** The study provides data to the limited visible research in knowledge sharing strategies in institutions of higher learning, especially in Kenya.

**Keywords:** *Knowledge Sharing, Information Technology, Strategies, Institutions of Higher Learning, Knowledge Management, Kenya.*

### INTRODUCTION

In Knowledge economy, Knowledge is considered a critical factor of production. In most communication contexts, the word knowledge crop up. Despite its frequent use, knowledge as a word is not explicitly defined. Many people use information and knowledge alternatively. However, the two are different concepts (Wang & Noe, 2010). Various scholars have advanced numerous definitions of knowledge, definitions of knowledge, Wang and Noe (2010), for example, define knowledge as the mental conceptualizations of information, facts, know-how, and intuitions, while other similar definitions were provided by earlier scholars (Polanyi, 1962; Nonaka, 1994). These definitions capture several concepts that are critical in the emphasizing in the importance of knowledge and the provision of a competitive advantage to an organization (Adamseyed & Hong, 2018).

Knowledge Management (K.M.) processes provide capture, creation, application, and reuse of knowledge, which are all synthesized in Knowledge Sharing (K.S.) (Ling et al., 2009). Moreover, Ling et al. (2009) state that the importance of K.S. in K.M. cannot be overrated. K.S. and knowledge transfer are interlinked and hard to be separated (Al-Kurdi et al., 2018), as the difference between the two terms is obscure (Bartol & Srivastava, 2002). Thus, in this study, K.S. is conceptualized as the exchange of knowledge among individuals (CoPs) within and outside organizations which, in turn creates more new knowledge (Al-Kurdi et al., 2018).

K.S. strategies in IHLs have grown from the usual meetings, group discussions, and conferences to include the integration of technology (Yusof et al., 2015). These upcoming strategies formulate K.S. groups that bear the descriptions of a Community of Practice (Cops) or virtual CoPs (VCoPs) as essential KS forums for IHLs. K.S., per se, helps in solving problems, thorough interactions, and exchange of ideas (Wang & Noe, 2010). K.M. is seen as a tool that utilizes K.S. for effective transfer of knowledge, intellectual capital management (I.C.M.), innovation, knowledge generation, and knowledge is focused at customers. Similarly, Yang (2007), in his study on organizational learning, found that sharing is beyond mere data collection and information but aimed at increasing knowledge sharing. Other benefits include: innovation, reduced production costs, efficiency and, team performance leading to improved decision making. Studies have attributed this to quick solutions to problems, efficient learning, knowledge preservation, better investment returns, facilitation in repository building, and competition power (Ling et al., 2009; Adamseyed & Hong, 2018). Generally, K.S. enhances the quality of education through collaborations in particular, specific contexts such as CoPs, which are core to knowledge creation and sharing for the success of an organization (Jeon et al., 2011). Knowledge sharing culminates into CoPs starting with a few members but gradually grows into larger CoPs, within and beyond the organizational borders.



[Long & Fahey \(2000\)](#) state that knowledge in organizations can be categorized into three levels: individual, CoP, and organizational levels. Consequently, people create knowledge, share it in CoPs and it is finally utilized in the entire organization ([Parry, 2010](#)). Knowledge sharing requires a medium of at least two persons ([Savita, 2012](#)), which is an essential requisite for a CoP. This can further be enhanced by an enabling environment, both physical and online.

Face to face interactions would be the most ideal for K.S. However, due to time, scarcity of meeting places, and growth of an organization, it may not always be feasible ([Tsui et al., 2006](#)). [Ling et al. \(2009\)](#) assert that I.T. and social interactions must be blended for effective and timely K.S. K.S. takes place where one person called a giver sends the message to another person called receiver of knowledge. Thus, the principal aim of KS is to enhance knowledge flow within and outside the desired organization(s). Knowledge sharing takes place through the interaction among the members of a given organization, either face-to-face or, mediated by technology.

[Yusof et al. \(2015\)](#) acknowledge that K.M. practices are critical components in organizational operations. This applies to both private and public organizations, including institutions of higher learning (IHL). IHLs are best known for orientation to knowledge creation and sharing where the clients and staff utilize the knowledge for the achievement of set organizational goals ([Kamal et al., 2007](#)). The dynamic nature of knowledge calls for continuous renewal, without which it becomes obsolete. Thus, the knowledge sharing process is an essential means of updating and preservation of knowledge ([Adamseyed & Hong, 2018](#)).

Based on the above background, the critical function of IHLs is to ensure the creation and dissemination of knowledge to support their core mandate of teaching and research. Knowledge as a critical asset has not been adequately shared to enable IHLs favourably to compete in the Knowledge economy. Most academics are individualistic and generally, there is low uptake of KM in IHL ([Slay et al., 2008a](#); [Fullwood et al., 2013](#)). Academicians, as knowledge workers, utilize many strategies in KS. However, they need to share their knowledge by forming expert social networks (CoPs), which effectively help harness knowledge creation and sharing. CoPs can be enhanced by embracing technology in KS ([Annabi & McGann, 2013](#)). However, IHL lack enabling knowledge sharing policies ([Santos & Sanjaya, 2016](#); [Abbas, 2017](#); [Chikono, 2018](#)). This means KS amongst CoPs lacks a strategic approach, and hence, KS is mainly informal ([Wenger, 2000](#)). This scenario in IHL provides the impetus for this study where limited visible research has been done in Kenya.

Thus, the study was carried to evaluate knowledge sharing strategies in selected public universities in Kenya. The objectives of the study were to: determine knowledge sharing strategies and assess the integration of technology in K.S. amongst CoPs in public universities in Kenya.

## LITERATURE REVIEW

[Nonaka & Konno \(1998\)](#) Concept of 'Ba' was used to guide the study. 'Ba' meaning 'Place' or 'Space' refers to knowledge sharing through face to face, online, or the adoption of a blended approach. They identify four types of Ba; the first refers to a K.S. process originating from the sharing of thoughts, experiences, and feelings. Secondly, individuals interact and exchange their ideas physically. Thirdly, K.S. takes place through the sharing of ideas virtually or online. Lastly, it entails the application of the created knowledge into the work environment through training, mentorship, or practicing. The model enabled an analysis of K.S. strategies, or forums and the integration of technology, which appropriately informed the study.

In India, a survey by [Santos & Sanjaya \(2016\)](#) in a Mega Open University explored knowledge sharing among academia. The findings showed that knowledge sharing was merely a voluntary act and not formalized. However, the institutions sharing of learning methodologies and materials were externally drawn from the internet and not from the wealth of knowledge from colleagues (CoPs). Thus, the main challenge associated with K.S. in academia was the lack of a KS policy. The study also revealed that the most preferred KS strategy was publishing research articles, which concurred with earlier findings in UK Universities ([Fullwood et al., 2013](#)).

There are limited studies on K.S. among CoPs, specifically in IHLs [Guevara & Achim \(2016\)](#) in Columbia examined the effects of CoPs on University faculty. They found that the utilization of technology among CoPs was a significant strategy. The finding emphasized the importance of integration of I.T. in CoPs which, led to faculty growth in professional advancement, increased collaboration, and empowerment in solving problems and adoption of technology-based instructional techniques. Further, [Al-Kurdi et al. \(2018\)](#) provided an analysis of KS in universities. They sampled 73 journal papers, over 10 years, and the reviewers reported a significant relationship between CoPs and K.S. in universities. The analysis concluded that CoPs as a K.S. strategy were vital in facilitating the sharing of information and knowledge among academicians, and ought to be embraced.

Research in Africa depicts a similar picture of the above phenomenon. In a study of Zimbabwe Open University, [Chikono \(2018\)](#) reported the willingness of the faculty to engage in KS activities. However, the lack of a K.S. policy was an inhibitor as earlier exposed by [Santos & Sanjaya \(2016\)](#). [Chikono \(2018\)](#) recommended the design and development of a K.S. policy in developing countries. [Hussein & Nassuora \(2011\)](#) asserts that, a K.S. policy is a key tool for enhancing K.S. A study of South African universities revealed that universities created an individualistic environment ([Slay et al., 2008a](#)) which was associated with activities geared towards explicit learning (publish or perish) and not collaborative learning. The study also emphasized on KS in CoPs where the exchange of information among the faculty

and students dominated. In particular, computer systems are highly enhanced at Rhodes University, which has enabled the sharing of information between teachers and the provincial administration, surrounding community, and non-governmental organizations. All the stakeholders participated in CoPs, which was improved by enriched IT integration. This indicates that the utilization of ICT can build strong CoPs to attain the desired K.S. levels.

[Abbas \(2017\)](#) in Nigeria delved into KS strategies and reported that conferences, workshops, and seminars were common strategies or fora among faculty members. Abbas recommends the adoption of new technologies as a potential tool to enrich KS through teaching and research. This narrows down the literature to the attachment of IT application to sharing knowledge in CoPs/VCoPs. While knowledge is well recognized as a critical asset in the Knowledge Economy, it is most significant when shared through I.T. [Maiga \(2017\)](#) in Tanzania studied knowledge sharing in selected universities and reported similar K.S. strategies as identified by [Abbas' \(2017\)](#) and [Santos & Sanjaya \(2016\)](#). However, in all the cases, a KS policy to guide knowledge generation and sharing is lacking. Notwithstanding, the study participants in these cases showed motivating interest to expand KS. This is an indication that a KS policy framework that informs staff across IHLs may stimulate and facilitate KS through various strategies such as CoPs.

In Kenya, several studies have reported the application of KM in both the private and public sectors. [Kahinga \(2014\)](#) found that frequent KS forums were conferences, seminars, and workshops that concur with earlier reported findings. Similarly, other researchers in the knowledge sharing discipline have pursued studies in Kenya ([Owino et al., 2012](#); [Wamitu, 2015](#)). [Owino et al. \(2012\)](#) in the private sector studied the factors that influenced the institutionalization of KM in manufacturing enterprises. The study results indicated that the significant areas of concern in institutionalizing of KM were technological capacity and organizational practice. Generally, the studies failed to give evidence of the vital role played by CoPs in K.S. [Mugalavai and Muleke \(2016\)](#) in a study of IHL in Kenya felt that CoPs lacked a strategic K.S. approach and knowledge hoarding was the norm.

K.S. is enhanced by motivational factors as it is a voluntary activity that cannot be imposed ([Mahmood et al., 2011](#)). Motivators can either be, intrinsic or extrinsic. In a study by [Osterloh & Frey \(2000\)](#), they concluded intrinsic motivators were stronger than extrinsic motivators. [Alhawary et al., \(2017\)](#) investigated influencing factors of K.S. in universities in Jordan. The findings revealed satisfaction in helping others, innate factors, and integration of I.T. as influencing K.S. [Javenpaa & Staples \(2001\)](#) asserts that financial incentives increase competition among individuals. However, [Janus \(2016\)](#) posits that a blend of the two motivators promises success in K.S., and meets particular individual needs and desires.

[Lee \(2018\)](#) conducted a study on the effect of K.S. on creativity in IHL in Korea. He identified various advantages of K.S. as improvement of the quality of work, and creativity as the most important. [Janus \(2016\)](#) identified critical characteristics of a K.S. organization to be, improved performance, recognition of CoPs, effective IT training, budget allocation, and availability of both physical and virtual space for K.S.

[Kerno \(2008\)](#) explored the challenges of K.S. among CoPs in organizations. The study revealed that inhibitors ranged from time limitations, unfavorable corporate structures, and inhibiting organizational cultures. These are common challenges among organizations, including the IHLs, which inhibit knowledge sharing ([Riege, 2005](#); [Santos et al. 2016](#)). [Yusuf & Wanjau \(2014\)](#) in a study in Kenya identified key barrier to K.S. as, inadequate IT skills and lack of responsibility for K.S; they recommended workable institutional structures, K.S culture and, socialization as a strategy of K.S. Other inhibitors include: inadequate rewards, limited formal outlines on KS, poor KS culture, small grants, limited links to donors, and inadequate I.T. systems ([Sandhu et al., 2011](#)) and lack of trust, ([Fullwood et al. 2013](#)), failure to allocate tasks ([Fullwood et al. 2018](#)). [Mallasi & Ainin \(2015\)](#) studied knowledge sharing in the UK universities found that non-monetary factors such as helping others and boosting confidence were critical for effective knowledge sharing among the faculty. It was, therefore, imperative that university managements in IHLs surmount such challenges through a comprehensive KS policy that integrates core issues of concern in K.S.

## METHODOLOGY

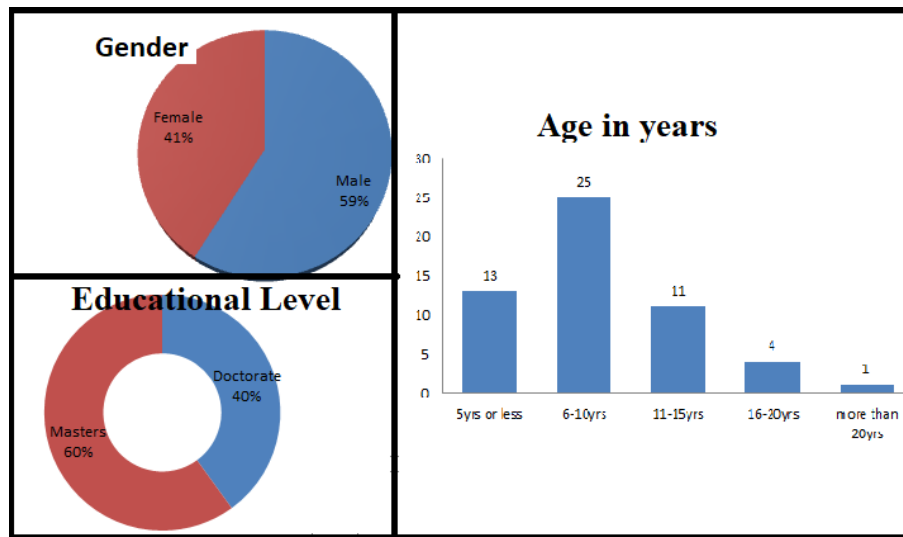
The study embraced constructivism and interpretivism paradigms; the analysis aimed at understanding people's behavior based on their experience ([Denzin & Lincoln, 2005](#); [Noor, 2008](#)). Using a descriptive survey design and a qualitative research methodology, the study population is comprised of all the 31 fully accredited public universities in Kenya. Their Charter status guided their selection. Moreover, the selection of the public universities was focused on their autonomy and vision on knowledge creation, assimilation, and dissemination ([Albach et al., 2015](#)). The 31 public universities were grouped into four strata based on the number of years of existence from the time of establishment. Purposive/judgemental sampling guided the selection of one public university from each layer. They included Moi, Multimedia, Karatina, and Kibabii Universities. The sampled universities represented different regions in Kenya.

At each selected university, a census was undertaken of all Deans of faculty/schools, purposefully selected as guided by data saturation ([Boddy, 2016](#)). For instance, only 12 Deans were interviewed at Moi University despite having 15 Deans, as data saturation began at the sixth interview and by the 12th interview, there was no new data collected ([Boddy, 2016](#)). The others included five Deans from Kibabii, five Deans (Karatina), and five Deans (Multimedia) who are lecturers with additional administrative responsibilities. A further 27 lecturers were purposely selected, one from every faculty/school

for their role as participants in CoPs (Boddy, 2016). Snowballing was used to choose lecturers as guided by the Deans of faculty/school.

The study utilized face-to-face interviews and documentary analysis, where qualitative data was collected from the sampled institutions. All the respondents were coded to ensure confidentiality and anonymity. The documents analyzed included policy documents such as research, intellectual property policies, among many others. Triangulation methods were utilized in data analysis, where the results from each data collection method enabled the corroboration of the findings (Bhattacharjee, 2012). Pie-charts, bar-graphs, and tables were utilized for clarity of data presentation, but the data was not analyzed quantitatively. Data collected was analyzed thematically as guided by Boyatzis (1998).

## RESULTS/FINDINGS



**Figure 1:** Demographic information of participants (n=54)

Figure 1 shows that majority of the respondents were males (59%) against the proportion of 41% of the females. It implies that the results have a depiction of more male participants than females. At the time of data collection, the majority of the participants, 25 had job tenure of between 6-10 years, with 13 of them being five years or less. Moreover, 11, 4, and 1 were between 11-15 years, 16-20 years, and more than 20 years, respectively. The educational level, a higher proportion (60%) was Master's degree holders against the doctorate holders of 40%. It means that the participants had a wealth of knowledge and experience in the academic areas of specialization.

### *Responsibilities aligned to Knowledge Generation*

The study findings showed that the Deans had their duties and responsibilities aligned to aims that generate knowledge. The responsibilities enriched their approach to required tasks, including problem-solving tasks, exercising what has been learned, growth in programs, and other related policy issues. The Deans were specifically, responsible for designing and developing policies through benchmarking, attending specialized trainings on the allocated tasks, and handling emerging challenges. As they narrowed down to decision making, they shared the created knowledge by working with other faculty members or CoPs. The findings are consistent with Wenger (1998) and, Wenger, McDermott, and Snyder (2002), who opined that the creation of knowledge is a product of K.S. for the benefit of the organization.

### *Research and Collaboration Output*

In an attempt to establish the existence of CoPs, the study focused on the deans and lecturers' collaborative strategy to produce academic publications or conference presentations. The results are indicated in Table 1.

**Table 1:** Number of Co-authors (n = 54)

Number of Authors	Frequency	Percent
1	9	16.7
2	12	22.2
3	17	31.5
4	8	14.8
5	6	11.1
Above 5	2	3.7
Total	54	100

Table 1 shows that the highest percentage of the participants 17(31.5%) had published at least an article in a group of three authors. Comparatively, a close proportion of 12(22.2%) of them had published as two authors, while nine (16.7%) had published individually. Others indicated having published as four, five, and above. This implies that, while the number of author's integration in the development of any publication was not explicitly stated, the authors participated in various CoP sizes ranging from two to over five authors. These participants also shared knowledge through conference presentations, which were subsequently published. These findings were corroborated from the number of authors in articles archived, which were within the same range in the institutional repository (I.R.) of the sampled universities. These findings associate the existing knowledge sharing aspects with the description of CoPs as characterized by [Wenger et al. \(2002\)](#). It is also in tandem with [Maiga's \(2017\)](#) study on Tanzanian universities as practicing knowledge sharing through conferences and seminar presentations, publications, and lectures as key K.S. strategies.

### ***Knowledge Sharing Strategies/Forums***

The study found that teaching/research was the dominant forum among the respondents as it is spelled out as the core tasks assigned to faculty while CoPs were ranked average (56%) which means that most of the academics worked individually or just shared knowledge with colleagues informally unaware they were sharing key knowledge. This implies, the majority lecturers and Deans are more familiar with or had used some strategies to share knowledge such as teaching/research (83.3%), IR/website/intranet/ meetings (77.7%), and seminars and workshops (76.6%) ([Maiga, 2017](#)). The other K.S. strategies were less common.

### ***Internal and External Knowledge Sharing among Academics in the Universities***

The study found that respondents interacted with others from both within and outside the organization. The study showed that twenty-two percent (22%) were external co-authors while (78%) were from within their organizations (78%). Most of those that collaborated with respondents from outside the institutions were mostly former colleagues in college, as well as thesis supervisors. This implies internal and external knowledge was readily available in the universities. External knowledge can help to enrich internal knowledge for the benefit of the organization. This supports the fact that CoPs can be both formed within and outside the organization ([Wenger et al., 2002](#) & [Amin et al., 2011](#)).

### ***Utilization of Information Technology in Knowledge Sharing among CoPs***

The study found that majority of the staff had access to ICT equipment in their areas of jurisdiction. This was illustrated by the verbatim responses from D18 who stated;

*"I can use a computer in the Department, library or use my laptop."*

This can be interpreted that the Deans have reliable access to computers. Respondent D3 stated that:

*"I use my laptop"*

A similar statement was provided by respondent L24, who came from a different university from respondent D3. However, other respondents indicated that there were fewer computers in a shared office, which infers they shared limited computer systems. He stated:

*"I use any available computer in the Department."*

Other respondents indicated that the computers are public where they had to visit the university library or computer laboratory to access one. These findings imply that the ICT equipment was not readily available to lecturers who had either to own laptops or utilize the shared computers in their departments or library. This infers that lecturers did not easily access ICTs as was necessary for knowledge sharing as shared ICTs were not guaranteed when required for the purpose. Hence, the use of technology in knowledge sharing posed a challenge. On the contrary, the results revealed all Deans had access to reliable ICTs under their offices.

### ***Adequacy of ICT Equipment to Academic Staff***

Through the interviews with the lecturers, the results revealed that the majority of the lecturers felt that, they were not adequately equipped with ICT related devices. With a total of 27 respondents, the majority indicated that the ICT equipment was inadequate, while only 2(7.4%) of them confirmed that the ICT equipment was adequate. Generally, most respondents felt that the inadequacy of ICT equipment was an inhibitor to embracing of ICTs in knowledge sharing despite being core in interactions amongst CoPs.

### ***Specific Internet Collaborative Tools used for Knowledge Sharing***

The study revealed that the most dominant collaboration tool was e-mailing with other supplementing KS internet tools in the universities. All the respondents alluded to their use of email in communication and exchange of information and knowledge. Facebook, WhatsApp, and other social media applications ranged at 48(88.8%). Groupware was only familiar to a few of the respondents, 20(37%). The minority of the respondents 10(18.5%) acknowledged having used Bulletin Boards. This infers that the most popular internet collaborative tool used was e-mail (100%), WhatsApp, Facebook, and other networking sites (88%) in comparison, to the more interactive components generally had low



uptake with Groupware (37%) and (18.5%) Bulletin Boards respectively. It can be inferred that the integration of information technology for KS was in its formative stage.

Respondents who used limited internet collaborative tools revealed their reasons for low adoption. Their responses varied in dimensions to availability and access to the ICT equipment. For instance, respondent L18 stated:

*"I use only email as other internet collaborative tools are not familiar to me."*

Similarly, respondent L6 stated:

*"I would wish to utilize internet collaborative services, but I lack the knowledge and necessary skills to use them effectively."*

This implies that there was an ICT illiteracy in some cases, even providing training would not work for some respondents. Respondents L6 stated:

*"At my age, I don't need to learn other internet collaborative tools, I enjoy writing my manuscripts, someone types, and I send them by e-mail to the publishers."*

This would be an inhibitor in integrating technology in KS as it was characterized by slow uptake of collaborative internet tools. Others indicated that while they could operate a computer system, the knowledge was so basic and limited to the use of emails most of the time. Respondent D25 stated,

*"I can use e-mail comfortably but not any other internet collaborative tools."*

It means that email is the primary collaborative internet application employed across the universities. Based on the analysis, it was evident; a significant number of the respondents could not utilize most of the collaborative internet tools in K.S. It can be attributed to the following challenges: unfamiliarity with the collaborative internet tools, the inadequacy of computers, and lack of knowledge and skills for effective utilization of collaborative internet services for KS. It can be inferred that lack of exposure to collaborative internet tools might have been aggravated by inadequate ICT equipment such as computers and training in all the universities sampled.

## DISCUSSION

The study established that the significant K.S. strategies in the selected public universities were conferences, teaching, postgraduate seminars, workshops, discourse in school and departmental boards, mentorship of the novice by the experts, especially in the science-based disciplines, various committees, and institutional repository among others. Lecturer's lounges, offices, cafeterias, and corridors provided avenues for sharing knowledge informally. These findings corroborate with those of other earlier studies ([Kahinga, 2014](#); [Maiga, 2017](#)). The study explored the existence of a KS policy, still, in all the universities sampled, there existed related plans on different aspects of knowledge creation such as research and intellectual capital management but lacked an all-inclusive KS policy to guide the sharing of knowledge. This was a common challenge and consistent with other studies, and therefore, it can be inferred KS lacks a strategic approach in most universities ([Hussein & Nassuora, 2011](#)).

The study established that technology-facilitated K.S., eased communication between group members. The group members linked collaboratively through available ICT equipment that enhanced K.S. The ICTs in the departments/faculties/schools include: computers, printers, projectors, photocopiers, which were mostly found in deans offices. While a few computers are available to lecturers, the majorities have to purchase their laptops. Generally, ICTs were inadequate, which implies they were an obstacle to the effective utilization of technology for collaboration among CoPs. [Santosh & Panda \(2016\)](#), in their findings, revealed K.S. was a voluntary activity, which is not popular in online environments. The low uptake of technology in universities contradicts the common understanding that academics embrace technology early ([Eysenbach, 2011](#)) but agrees with earlier findings by ([Leidner & Javenpaa, 1995](#)), who reiterated that, in the adoption of technology, businesses are always ahead of academia by a decade.

The results indicated the integration of technology in K.S through a few specific internet collaboration services. The services include e-mail, WhatsApp, Facebook, Groupware, Bulletin Boards, among others, where e-mail was the most popular as also echoed by [Corcoran & Duane \(2018\)](#). This implies most universities are utilizing more asynchronous online interactions as opposed to synchronous or real-time collaborations, which are very productive in K.S.

## CONCLUSION

Based on the foregoing, we conclude that K.S. strategies are critical for the creation of new knowledge, improved institutional performance, decision making, and provides a competitive advantage for IHLs. Generally, K.S lacks a strategic approach, It is imperative that individual university management should institute K.S. by developing K.S. policy that guides K.S., consistent knowledge sharing strategies including CoPs. A KS policy should provide for the integration of technology for the effectiveness and success of KS ([Hussein & Nassuora, 2011](#)). University ICT departments can improve the uptake of technology by creating awareness and training on the various collaborative tools accessible online through regular workshops and seminars. Specifically, the ICT staff should champion the adoption of



Web 2.0 technologies by sensitizing users to exploit them. Therefore, universities need to develop a more integrated Knowledge Management Systems (KMS) and IR that would store explicit knowledge, which ensures access and retrieval of organizational knowledge when required. It helps avoid reinventing the wheel and provides a competitive advantage to the universities (Adamseyed & Hong, 2018). Finally, a blend of both, intrinsic and extrinsic motivators must be instituted, to motivate K.S. (Janus, 2016).

### LIMITATION AND STUDY FORWARD

While the study unveiled the major K.S strategies used in IHLs in Kenya to share knowledge, and the important role of technology, it was however, limited to only four public universities. As a matter of scientific property of replication, the results reflect the general picture of the KS strategies used in IHL in Kenya. Ideally, the qualitative approach used attained in-depth insights of the study problem as opposed to generalization.

Similarly, the study narrowed its scope to the use of purposive sampling by focusing on a relatively small sample. The technique was suitable to the study as it focuses on the experts and information-rich subjects in an investigation that has a relatively too large population to be covered without complexities. In sync with qualitative methodology, the research focused on individual participant's views and understanding of KS strategies and the integration of ICT in KS. Through careful observation of research ethics, the study minimized personal biases and misconceptions to achieve a fair and accurate picture of the study phenomenon through triangulation of data collection methods and analysis.

The study recommends, further research on KS strategies integrated with technology to be replicated in private IHLs to corroborate any coherence in the findings. Furthermore, an evaluation of technology utilization in KS based on gender can be explored in IHLs in Kenya to assess any difference in embracing of technology.

### ACKNOWLEDGEMENT

We give gratitude to all Deans and academic staff from the sampled universities who participated in K.S. in the present study. Many thanks for sacrificing their time and knowledge, out of their busy schedules to take part in our interviews that made it possible to interrogate knowledge sharing in academia.

### AUTHORS CONTRIBUTION

Nancy M. Kimile -The Principal/corresponding author, developed the study problem, wrote literature, designed the methods, collected data, and facilitated analysis.

Prof. Godrick M. Bulitita: A co-author, who reviewed the research title, evaluated research instruments, and guided on scholarly writing.

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