Knowledge Hoarding among Academic Staff in Higher Education Institutions in Uganda: Risk or Strategy?

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A cross sectional study targeting academic staff that were purposively selected was undertaken to ascertain whether there are behaviours of intentional knowledge retention or intentional obstruction of knowledge sharing initiatives referred to as knowledge hoarding. The study wanted to ascertain whether staff considered knowledge hoarding as a plan towards the attainment of a vantage position or as a probable magnitude of opportunity loss (risk).The study was undertaken amidst controversies that knowledge hoarding was a likely occurrence in Higher Education Institutions (HEI's) in Uganda. Findings did not confirm high incidences of behaviours perpetuating knowledge hoarding vices though there were a few dissenting views mainly from scientists' conversant with intellectual property rights and whose concern was knowledge spillages that go unrewarded and unacknowledged that might necessitate tough measures on what, when and with whom to share. Many respondents were in agreement with earlier researchers who reported that sharing expertise in the academic world would rejuvenate and expound on existing knowledge and did not agree that knowledge hoarding would in any way assist HEI attain and or maintain any vantage position but could lead to losses of opportunities to attain vantage positions. . Recommendations include the introduction of a knowledge protection framework; Institutional knowledge protection, benefits and rewards, punitive measures to handle knowledge hoarders. Educating staff on issues of intellectual property rights, copyrights and trade secrets and introducing communities of practice and team teaching are also recommended. Future research could investigate scientists involved in innovations.

Keywords: Knowledge, knowledge hoarding, Higher Education Institutions.

1. Introduction

There are many definitions of knowledge though Davenport and Prusak (1998) define knowledge as a "fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information". This study defines knowledge as best practices, experience and expert insight for teaching, consultancy and research. Most research emphasize the importance of sharing knowledge both at individual and firm level arguing that it has a positive impact on creation of knowledge assets that are a pre requisite to organisations survival (Syed-Ikhasam & Rowland, 2004). Similarly Yang (2007) urges that if knowledge is shared it appreciates and in so doing the

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organisation improves in productivity, creativity, decision making and behavioural change occurs among staff (Huber, 1991) and consequently new competencies and best practices are developed. However this study wants to focus more on knowledge hoarding which tendency according to Soumya (2013) is especially rampant in heterogeneous teams of specialists and those that require acquisition of practical skills which characteristics are synonymous to Higher Education Institutions (HEI).

Knowledge hoarding which is defined in this paper as intentional knowledge retention and purposeful obstruction of knowledge sharing initiatives (Soumya, 2013; Andolsek, 2011) is widely spread. Although Higher Education Institutions (HEI's) are expected to generate, preserve, transmit and foster the discovery of best practices that stimulate creativity, innovations and improve service delivery, in practice inadequate sharing has been found as a major impediment in many organisations (Xue, Bradley & Liang,2010). Several scholars investigated knowledge hoarding; Wang ,Lin ,Li and Lin (2013) carried out a research on knowledge withholding intentions among students in Taiwan and reported that students who are popular were more inclined to share information as compared to those who were not popular. Chaudhry (2005) also reported reluctance to share knowledge among staff in Singapore Institutions' for fear of losing their jobs or because of insecurity. The same study reported purposeful refusal to document procedures and information about certain assignments for fear of losing their knowledge to colleagues'. Although empirical evidence on barriers of knowledge sharing is profuse (Cong, Li-Hua & Stonehouse, 2007; Chiu et. al.,2006; Wang & Noe, 2010; Nov & Kuk,2008), there is paucity of research that explains why academia hoard knowledge in developing countries and specifically in Uganda.

This paper carried out an in-depth investigation of the reasons for knowledge hoarding to understand whether academic staff in HEI's in Uganda intentionally retain and or purposely obstruct sharing knowledge as a careful plan to maximise benefits from staffs' knowledge referred to as strategy or consider hoarding as an opportunity lost referred to as risk. By investigating whether knowledge hoarding exists and whether it is considered a strategy or a risk in Ugandan Institutions of Higher Learning, this study will be among the first of this kind since many studies have mainly explored factors that contribute to knowledge hoarding.

In this article, we explored knowledge hoarding among administrative staff in HEI in Uganda; related literature was reviewed to situate the study alongside other works that have attempted to address this phenomenon. A descriptive survey design using self administered questionnaire and an interview guide as research instruments were used to collect data. Results were presented and discussed, conclusions drawn and implications for practice proposed.

The paper is divided into six sections. The first section tackles the background information followed by a review of related literature that explores what other academicians have written about the subject of knowledge hoarding and the missing gaps that justify this study .The third section outlines the methodology that explains the instruments, methods , sampling procedure and data quality that include factor analysis results. The fourth section presents results of the study followed by interpretation, discussion of results and lastly, conclusions drawn and proposed implications for practice

2. Review of Literature

The importance of individuals' knowledge and appreciating knowledge management frameworks' that organisations put in place to manage staffs' knowledge and the kinds of challenges that impede exploitation of such a strategic resource cannot be underscored. According to von Kroug (1998), knowledge management is the identification and positioning of knowledge or innovations geared towards strategy and management practices so as gain competitive advantage. The leveraging of knowledge to gain a competitive advantage could involve either; promoting knowledge sharing or intentionally regulating the sharing tendencies for fear of the possibility of losing benefits associated with knowledge (Husted, Michalova, Minbaeva and Pedersen (2011). On the one hand, hoarding breeds a culture of distrust, unhealthy competition that results in low staff morale and eventual high labour turn over which is a big risk in modern management (Cong, Li-Hua & Stonehouse, 2007) and impacts on the efficiency, effectiveness and relevance of MDIs. Conversely, scholars like Husted, et.al. (2011) urge that hoarding is not always bad since it protects competitive advantage, works as strategy against uncertainty, and ensures power retention and security over personal gains such as bonuses, promotions and protection from layoffs. This study did not investigate the advantages or disadvantages of knowledge hoarding but whether the practice exists in HEI of Uganda and whether it is considered a strategy or risk.

According to Robertson, (2004) , many employees are reluctant to share what they know although there are willing to do their daily activities that are required in their jobs. Wang, Lin, Li and Lin (2013), also reported that students in Taiwan who supported rewards were more prone to withholding information and that there was a significant positive relationship between rewards and intention to withhold knowledge. The issue of rewards however has generated a lot of diverse views for according to Milne (2001) and Roberts (2000), traditional incentives have not changed employees' behaviour to hoard knowledge. This study actually found that the few scientists who expected rewards were most willing to share what they knew. Other previous research on withholding tendencies investigated theoretical aspects (Chiu et. al., 2006; Wang & Noe, 2010) personality traits (Nov & Kuk, 2008) social factors and technology (Eid & Nuhu, 2011). A more recent study that investigated intentional attempt by individuals to conceal knowledge from colleagues' which practice they termed knowledge hiding, identified knowledge hiding predictors (Connelly, Zweing, Webster and Trougako, 2012). All of these studies did not investigate Higher Education Institutions in Uganda nor did they investigate whether hoarding is a plan geared towards the attainment and maintenance of a vantage position or as a probable possibility of opportunity loss.

Anchored on the notion that behavioural factors associated with transactions between two or more parties yield a pattern of reciprocal obligations through a series of mutual although not necessarily simultaneous exchanges (Blau, 1964), the social exchange theory underpinned this study. The social exchange theory that has its roots in economics, sociology and psychology argues that social relations are an outcome of exchanging or sharing of resources with the purpose of minimising costs and maximising benefits. The exchange is assumed to not only be driven by economic factors but also psychological factors. Blau (1964) further argues that sharing behaviour can be motivated by economic and social exchange parameters whereby economic factors are equated to tangible returns such as money while social exchange parameters are viewed as the intangible aspects such as

association. Furthermore Hall (2001) described rewards such as bonuses and promotions as tangible whereas better reputation and respect from colleague's) as intangible. According to Johnson and Johnson (1989) and Tjosvold (1984) rewards can be divided into two, those that are based on joint performance, are cooperative and can provide an incentive for individuals to work together because it is in their common interest to perform well. Secondly there are those that are tied to how well one performs as compared to another and are referred to competitive rewards. While rewards are known to motivate staff, some staff do not consider them as motivators. We posit that staff in HEI could either decide to share or intentionally retain and or purposely obstruct best experiences , experience and expert insight for teaching, consultancy and research depending on whether they consider any of those options advantageous or not. Against this background, the researchers wondered whether knowledge hoarding could assist Higher Education Institutions in Uganda HEI attain a vantage position or pose a possibility for losing opportunities and hence the question; is knowledge hoarding considered a strategy or a risk for HEIs?. The aim of research was to find out whether knowledge hoarding in HEIs is considered a strategy or a risk with three specific objectives namely:

1. To establish whether staff in HEIs intentionally retain knowledge
2. To establish whether staff in HEIs intentionally obstruct the sharing of knowledge
3. To investigate whether knowledge hoarding is considered a strategy or a risk for HEIs

3. Methodology

A descriptive survey which was cross sectional in nature was conducted in three (3) purposively selected HEIs. The three were purposively selected after a pilot study revealed that the three were the most suitable samples because they comprised heterogeneous specialists that were involved in team teaching and or collaborative research. The three Institutions purposively selected included one private University; one Government aided University and one Management Development Institute. Respondents were drawn from Departmental strata in every HEI and staff lists formed the sampling framework. From the Departmental staff lists, respondents believed to have fully participated in either team teaching or collaborative research were purposively selected with the help of Faculty Deans and Heads of Department.

Surveys and interviews were the main data collection methods while a self-administered questionnaire and research guides were the two major research instruments used. Data was collected between January and July, 2013. Self-administered questionnaires were distributed to a total of eighty staff in HEI's comprising mainly teaching staff that are heavily engaged in teaching and research, majority being science orientated teaching staff. Measures for the constructs on knowledge hoarding were adapted from prior research (Husted, Michalova, Minbaeva, & Pedersen 2011; Cong et. al., 2007). Another set of five items to assess HEI's effectiveness associated with sharing of expertise were developed from items by Muhenda and Lwanga (2012) and Lwanga and Muhenda (2011). All the above items were evaluated by five point Likert scale where (I) represented strongly disagree and five (5) represented strongly agree.

The items were then subjected to factor analysis to confirm the dimensions of the concept that were operationally defined and also to indicate which of the items were most appropriate for assessing knowledge hoarding .Results below indicate that all eleven (11) items registered a Cronbach alpha ranging between .63 to .72 (Sekaran, 2003) which is appropriate as summarised in the table next page:

Table 1: Cronbach alpha measurements

	Cronbach's Alpha
I only share knowledge with people I benefit from	.70
I only seek colleagues' expertise when I expect to personal gain	.71
My organisation clearly communicates the importance of protecting knowledge	.70
My organisation values and protects knowledge embedded in individuals	.70
There are deliberate efforts to discourage staff from posting all teaching materials and or sharing research findings for fear.....	.70
I believe that if I kept all my expertise knowledge my promotional chances would improve	.64
I believe that knowledge sharing rewards may not motivate staff to share best practices	.70
I believe in the slogan 'Knowledge is Power'	.72
here are processes to protect knowledge from inappropriate use in the organization	.70
There are incentives that encourage that encourage the protection of knowledge	.63
There are processes to protect knowledge from theft from outside	.65

Respondents' views relating to the items listed above in form of percentages were tabulated and interpreted in addition to qualitative analysis of key informants responses. The interviewers were helpful for purposes of capturing respondents' views on beliefs, values,

feelings and personal judgment to help draw conclusions. Direct respondents' quotes were also included to beef up the descriptive results.

4. Presentation of Results

Descriptive statistics of the statements in table 1 reflecting the respondents' views were converted into simple statistics and interpreted as discussed below.A total of eighty (80) questionnaires were sent out, seventy three (73) were returned out of which sixty three (63) were valid. Out of these respondents 59.2% were male and 28.2 % were female, indicating that it's a male dominated sample. Majority of these had a teaching experience below 10 years while 22.5 % had experience beyond 16 years. About work tenure in the organization majority (86.1%) had worked in the organization for over five years, an indication that majority of respondents had spent a long time in the organization and probably had assimilated the organizational culture and hence were able to answer the questions sufficiently. Respondents' views on all the eleven (11) items assessing knowledge hoarding behavior are interpreted here below:

On *whether respondents believe that sharing what they know will be reciprocated by colleagues*, 18% disagreed, 4% were undecided while 40% of respondents agreed that sharing would be reciprocated. This reflects staffs' appreciation of colleagues' expertise and experience indicating the existence of a sharing culture in most HEI's. One of the key informants intimated that "*through seminars, workshops and one on one discussion with colleagues' enable staff acquires new experiences*". Of the 18% who did not believe that sharing will not be reciprocated by colleagues, majority were scientists who had had bad experiences with partners' some of who had plagiarized their work and sought personal gains. One key respondent from the National Council of Science and Technology also intimated that some collaborators especially international researchers were "cheating" the young unsuspecting innovators and getting a raw deal. Another member of the National Intellectual Property also confirmed the exploitation of the experienced scientists and inability to share the gains from joint research because of ignorance on matters of copyright, intellectual property rights and benefits.

When asked whether *they only seek colleagues' expertise when they expect personal gain*, majority disagreed (66.2%) indicating that there must be a sharing culture amongst staff in HEI, and probably existence of avenues or opportunities that allow sharing. This is further supported by the question on *whether they only share with people they benefit* from where 73.2% disagreed and only 15.5% agreed. The 15.5% could possibly be the ones representing those who want to be compensated. Some key informants were of the view that staff could be encouraged to share knowledge during seminars, meetings and workshops and failure do so could be linked to punitive measures. According to one key informant,
Efforts have been made to encourage people to share research findings though the turn up is still very low and no punitive measures have been taken against those who don't attend".

This was a clear indication of lack of enthusiasm to share best practices, expert insight although we could not ascertain with confidence whether the inability to attend such foras tantamount to intentional knowledge retention.

When asked whether *Institutions clearly communicate the importance of protecting knowledge from outsiders*, 35.2 % of the respondent's disagreed and 33.8% agreed that there are clear communications in protecting knowledge from outsiders. When probed further to give examples of clear procedures of communicating knowledge protection measures, many were non-committal. There were however a few respondents mainly those involved in team teaching who intimated that they have as a Department agreed not to give detailed handouts in soft copy formats to their students because they had established that a few of them would use same materials to facilitate in other organizations'. We thus infer that there are underlying cultures in some Schools and Departments that communicate the importance of protecting knowledge from outsiders though not formally.

On whether *knowledge embedded in individuals is valued and protected by HEI*, majority did not think that staff knowledge is valued and protected. One key informant had this to say;

" If my University valued technical know- how embedded in staff, how come that no deliberate efforts are made to tap such expertise, document best practices before staff retire or exit?.

Others were even wondering whether the HEI are aware of what type of knowledge their staff possess and whether management was interested in knowing or aware of the value of what their staff have embedded in their heads. All these findings are evidence to the fact that there were no obvious behaviours pointing to intentional knowledge retention in HEI.

A good number of staff totaling 42.3% agreed that *there are deliberate efforts to discourage staff from posting all teaching materials online*. When probed further some key informants divulged that posting teaching materials online would encourage laziness amongst teaching staff and that students would also stop coming to class since they would have access to class notes. Other informants were of the view that it might not be any of the aforementioned reasons but due to lack of ICT skills on the side of staff who are unable to post their materials in addition to inadequate ICT infrastructure that is characteristic of most HEI's in Uganda. Some ICT/Managers' actually decried the low level of ICT skills although they had designed a number of sessions for HEI's staff covering basic Microsoft skills, internet searching and optimum use of the intranet. One ICT Manager also divulged that she was in the process of customising a repository for her organization as a strategy to encourage sharing of academic work especially research findings and teaching materials.

On whether rewards for sharing knowledge would not motivate staff, majority of the respondents 42.3% disagreed with the statement while only 35.2% agreed that sharing would not motivate staff. Young scientists were very sure that rewards for individual innovations would motivate them to work hard and innovate more. Clearly this reflects staffs desire to be compensated for what they know although during interviews people had conflicting arguments. Whereas some key informants were of the view *that incentives both monetary and non-monetary should be pegged to sharing of information others* did not consider reward as a major incentives. Majority of staff also indicated that their *promotional chances are not pegged to refusal to share what they know , on the contrary majority said that sharing what they know would increase their promotional chances*. A miserably 29.6 % of staff believed that refusal to share what they know would improve their chances for

promotions. Results indicate that staffs in Higher Education Institutes do not fear to share what they know as a strategy for personal gains contrary to Husted and Michailova (2002) who argue that hoarding could ensure power retention and security over personal gains.

I believe in the slogan knowledge is power. Majority 76% of staff were in agreement that it is always advantageous to be a source of knowledge for colleagues. Efforts to ascertain how knowledge is considered as power were futile because staff could not clearly articulate how it makes them powerful. However we could not completely ignore such a statement that is associated with intentional hoarding, even though we could not say with certainty that it was intentional hoarding. This is in line with Drucker (1998) who emphasized the importance of knowledge as a strategic resource in the global village. Given that we operate in a knowledge economy where knowledge is viewed as strategic resource the majority of respondents acknowledged that whoever is knowledgeable has an advantage over others. A staff during one of the interviews said that '*I feel very good and proud when am the only one who is knowledgeable in a particular subject'* he however hasten to add that it's also *'has disadvantages because whenever a resource person is required to present on this subject they pick on you and yet sometimes you have other assignments to conclude'*

Concerning the existence of processes that protect knowledge from theft from outsiders, only 35.2% of respondents were in agreement while 36.6% disagreed and 24% were undecided, indicating that staffs are not sure whether these processes are in place. *When asked about existence of processes to protect knowledge from inappropriate use in the organization*, 31% feigned ignorance of such processes. Though a small percentage of 35.2% agreed that there are efforts to minimize inappropriate use although the processes are not so streamlined and neither are they documented. An ICT senior staff actually emphasized the importance of protecting information especially in face of cyber defamation and black mail but quickly acknowledge lack of clear processes and procedures to protect knowledge for inappropriate use. He intimated that his organization was in the process of buying software that will prevent hackers from infiltrating the system and posting bothersome information.

Having established respondents' views on knowledge hoarding characteristics, staff were further asked to **give their views on whether sharing knowledge would improve organizational effectiveness** in as far as identifying new business opportunities, adapting quickly to unanticipated changes, being responsive to new markets and develop new programmes that are demand driven. The respondents' views were captured as follows: Majority of respondents did not believe in hoarding what they know as already presented in section 4. Most stakeholders (69%) agreed that sharing what staff know could help Institutions identify new business opportunities, help adapt quickly to unanticipated changes (54%) and be responsive to new markets (63.4%). Majority of respondents actually said that sharing experiences, expertise and information can even assist in the development of new programmes that are demand driven. All these responses are an indication that knowledge hoarding is not considered a big advantage but could lead to future loses in terms of improving processes , creating new insights, experience in teaching, consultancy and research in HEI.

5. Discussion of Results

We defined knowledge hoarding as intentional knowledge retention and purposeful obstruction of knowledge sharing initiatives (Soumya, 2013; Andolsek, 2011). Our findings did not find concrete evidence of knowledge hoarding except when respondents' were asked to comment on the statement *'knowledge is power'*. Majority of respondents agreed to the statement implying that if members of the academia know that they are the only source of specific knowledge, the chances of intentionally retaining such knowledge would be high. Young scientist researchers were particularly very emphatic on retaining intellectual property information for fear of losing out after disclosure.   This is in line with Wang & Noe (2010) findings that people hoard knowledge in order to retain power and or control and for fear of losing out on personal gains. Further investigations on purposive obstruction of knowledge sharing, findings were not conclusive as reflected in the low response rates on the existence of processes that protect knowledge accessibility from outsiders. Items on the existence of processes geared towards the protection of knowledge from inappropriate use both internally and externally; promotional chances pegged to refusal to share knowledge; and incentives that encourage protection of knowledge yielded low responses.   Respondents views on these statements' were a confirmation that majority of academia are not hoarding knowledge as a strategy but consider it a risk to competence enrichment save from a few who are conversant with intellectual property issues. This is supported by Nonaka (1994) whose findings reported that transferring existing skills, knowledge and expertise is linked to improved competency both at individual and organizational levels. This is especially true according to Wegner (2009) who associate improved competency with creating new ideas, developing better processes, products and extended value. The dissenting views were mainly from a few scientists conversant with intellectual property rights who believed that information on patents, trademarks, copyrights, plant innovations, industrial designs, trade secrets and any other innovation likely to be replicated ought to be hoarded. One respondent narrated how his project was hijacked by an expatriate staff without him being rewarded whereas another respondent had this to say,
"*little did I know that I would get a raw deal after many years of serious research when a group of scientists appreciated my innovation and invited me to their country, only to realize that they had obtained the knowledge at the price of an air ticket and food*"

This is further confirmed in interview responses where majority did not agree that hoarding knowledge is a strategy for HEI. Many key respondents acknowledged the essence of sharing what they know because they believe that knowledge shared is likely to be improved and enriched. This view was also shared by those scientists who believed that they cannot work in isolation if they want their patents and or trade secrets enhanced. They further urged that since nobody has exclusive monopoly of knowledge, and as long as ideas are shared, knowledge and expertise is likely to increase and improve.

These findings are in line with Ahmed, Kok and Loh (2002) who believe that knowledge has extraordinary leverage and increasing returns since it does not diminish in value. They also believe that knowledge needs to be refreshed and rejuvenated because some of it becomes obsolete with time. More importantly is the fact that as knowledge grows it tends to branch and fragment into new knowledge which academicians could adapt in their effort to replicate and create new knowledge. The same sentiments are echoed by Davenport and

Prusak(1998) as well as Inkpen and Beamish (1997)who observed that in contrast to value chain, the intangible value is seen as a value network which grows each time a transfer takes place because knowledge does not leave the transferee but doubles effectively as it tends to grow by sharing.

6. Conclusion and Implications

Investigations of knowledge hoarding in HEIs in Uganda revealed neither serious intentional knowledge retaining behavior nor intentional obstruction of knowledge sharing. These notwithstanding there were indications that some few staff do not want to share knowledge because of plagiarism and unethical conduct in addition to selfish personal motives on the part of some external partners'. Based on the premise that HEI's are mandated to generate ,share and apply knowledge into meaningful innovations and cognizant of the findings that were not conclusive of intentional knowledge retention and or purposeful obstruction of knowledge sharing initiatives we conclude that knowledge hoarding may not be considered a plan towards the attainment of any vantage position. As to whether intentional obstruction of knowledge could lead to loss of opportunities on the part of individual staff and on the part of the HEIs in Uganda, majority of our respondents alluded to such sentiments. From the findings we can thus deduce that HEI consider knowledge hoarding as a risk and not a strategy.

The study recommends the initiation of knowledge protection frameworks that will clearly define such best practices, experience and expert insight for teaching purposes that Institutions would want to protect from competitors. . Secondly, knowledge solely owned by the Institution could be clearly defined and   delineated from that owned by staff in HEI and that Institutions should initiate and enforce policies that discourage staff from intentional knowledge hoarding and spell out punitive measures for non-compliancy. Training of staff on matters of intellectual property, trade secrets and patents rights and benefits in addition to establishing communities of practice were among other recommendations. Communities of practice revolving around Schools and or Departments could result in blogs or any other discussion platform, where academic discussions could be generated and moderated in order to generate new knowledge and further research.

Future research could investigate   knowledge sharing behaviours only among scientists' and could also study hoarding tendencies in organisations whose mandate is not knowledge generation, transmission for innovations as is the case with HEI.

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