KNOWLEDGE SHARING STRATEGIES AND KNOWLEDGE SHARING ATTITUDES: EMPIRICAL EVIDENCE FROM OPHTHALMOLOHY HOSPITAL

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ABSTRACT
Previous studies have recognised that willingness to share is cardinal to the process of knowledge sharing. This willingness has been connected to the knowledge sharing attitude and behaviour of employees. This study aims to develop a theoretical model for strategies of knowledge sharing as an important aspect of knowledge management and investigate their relationships with knowledgesharing attitudes in order to identify efficient ways to encourage employees to share knowledge in an Ophthalmology hospital. A convenient sample was used and fifty four questionnaires were obtained. The findings revealed that out of the seven strategies proposed by respondents; only two had significant correlations with knowledge sharing attitudes. Subsequent Regression analysis revealed that management encouragement through the provision of time has no positive influence (t = -0.935, Sig = 0.354; CI = -0.523 to -0.191) while linking non-monetary rewards to knowledge sharing has a significant impact (t= 2.793, Sig. = 0.007; CI = 0.130 to 0.793). This study concludes that appropriate motivation of employees is important for a successful knowledge sharing process. This has implication on the proper design of the reward system.
Keywords: Knowledge sharing strategies, knowledge sharing attitudes, Ophthalmology hospital

INTRODUCTION

Many writers in the field of epistemology have appreciated the ubiquitous nature of the concept of knowledge by the exposition of its concepts in diverse ways. The consequence was the adoption of "Pluralistic Epistemology" and the acknowledgement of the existence of many types of human knowledge (Stenmark, 2001, p. 2). Generally, researchers have recognized knowledge as a critical organizational resource that needs to be harnessed to improve organizational performance (Drucker, 1999). Knowledge management (KM) implementation is a sure way of leveraging this resource especially when applied through effective communication of benefits of knowledge sharing (KS). This leads to the generation of new ideas that can expand the scope of business (Grant, 1996) and improved individual, organizational and general performance and outcomes (Alavi et al, 2005).

Many factors are responsible for the difficulty in effective KM implementation in organisations. They include human heterogeneity (Bartlett and Ghoshal, 1989), management drive of the organizational culture (McDermott and O'Dell, 2001; Al-Alawi et al., 2007) and the tacit nature of knowledge and its relationship with individual attitudesand social behavior (Nonaka and Takeuchi, 1995; Wang et al., 2006; Oltra, 2005). In a majority of studies, the relationship between tacit knowledge and power and the high value placed on tacit knowledge as an organizational asset has been implicated as a possible reason for the

difficulty in harnessing it. There is no doubt that tacit knowledge is a strategic asset in a knowledge intensive organization like the hospital. Therefore, if it is properly harnessed and shared as a strategic asset, it will invariably lead to a competitive advantage in line withtheories that espouse aresource-based view (RBV) and knowledge-based view (KBV) (Barney, 1991; Drucker, 2000; Walters et al., 2003). Hence, the willingness of employees to share knowledge is cardinal to effective KM processes. Meanwhile, the complex nature of human behavior (Hendriks, 1999), the implicit nature of knowledge and the voluntary requirement for participation in KS, continues to retard efforts of most organizations towards effective KM application. As a result, most empirical studies have shown evidence that in practice; KM application has fallen short due to either inadequate sharing (Davenport and Prusak, 2000) or unwillingness to share (Sandhu et al. 2011). In the study by Stemark (2001, p. 24), it was noted that the "inability of the information systems to handle knowledge" is also a factor and it is responsible for the interest of researchers in KM. Overall, these factors have provoked the interest of researchers in examining the factors responsible for effective knowledge sharing (Hooff and Ridder, 2004), since the unwillingness of individuals to share knowledge, adversely affects organizational survival (Lin, 2007).For instance, Xue et al (2010, p. 300) investigated KS attitudes with respect to "two team-related factors, namely, team climate and empowering leadership" while the study by Hulsheger et al (2009)examined the social influence of team behavior. Generally, studies in this direction are relatively scarce in the health sector despite the recognition in management philosophy and business practice of the importance of tacit knowledge and KM in the health sector.

With the increasing competition in the eye care industry in Malaysia due to the proliferation of Ophthalmology hospitals to meet the rising demand for eye care, there is need for a strategic look at the ways of gaining competitive advantage. The knowledge intensive nature of an Ophthalmology hospital and the implication of the increasing diversity of its employees in response to the rising demand have made the application of knowledge management an impetuous necessity. This study will therefore, investigate the relationship of the KS strategies with KS attitudeswith a view to examining which of the KS strategies can positively influence KS attitudesand encourage KS in an Ophthalmology hospital. In doing this, a theoretical model of strategies to KS will be developed through the review of the literature.The model will be tested using a validated questionnaire in order to examine the relationship between the views of staff of hospital about strategies to KS and their KS attitude.The result of this study will enable the organisations to identify specific strategies that will be applicable for effective KS for the overall improvement of services and competitive advantage.

LITERATURE REVIEW
In organizations, three success factors have been noted to influence the sharing of both implicit and explicit knowledge (Anantatmula and Kanungo, 2010). They include culture, process and technology. It was noted by Johansson et al(2012, p. 4) that "Culture affects the knowledge sharing behaviour of the contributor and receiver through norms," while Lindner and Wald (2010) is of the opinion that knowledge culture is the most important success factor. Organisational processes ensure adequate storage and dissemination of knowledge while technology plays important role in the interactions of individuals within the organization employees (Lindner and Wald, 2010).Hence, websites, Twitter, e-mails, Facebook, internet and intranet services facilitate tacit knowledge exchange among the professionals in corporate settings (Stenmark, 2001; Sandhu et al., 2011).

Generally, "codification strategy" and "personalization strategy" are major ways in which information sharing can occur among employees (Johansson et al., 2012, p. 4). While codification has to do with explicit knowledge, the personification is interactive and tacit in nature (Hanisch et al., 2009). The

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hospital makes use of both types of knowledge transfer mechanisms through two notable strategies, namely, consulting seniors (Thompson, 1997; Payne et al., 2007) and search in compendia, books and journals (Gonzalez-Gonzalez et al., 2007; Dawes and Sampson, 2003). The recognition of the intricacies and difficulties of information retrievals, especially of patient's data, has led to the development of various computerised information systems that aid the acquisition and storage of datawith flexibilities in terms of functionality and improved medical decisions (Ting et al., 2011; Haux, 2006).However, it has been emphasized that the strategic prominence of the use of information and communication technology should not replace the face to face interaction (Kasvi et al.,2002).

The implementation of specific human resource (HR) practices such as training, teamwork or incentives, help in fostering knowledge creation and sharing in organizations (Chen and Huang, 2009; Chong and Choi, 2005; Shaw and Edwards, 2005). Other HR strategies include job rotation, a proper IT system, mentoring, job rotation, learning and training opportunities, recognition and rewards and internet facilities (Jain et al., 2010; Davenport and Prusak, 2000; Stenmark 2003). Other studies have emphasized that effective reward systems motivate staff to share knowledge among department members while the lack of proper motivation leads to fear of loss (Islam et al., 2011; Alam et al., 2009). In the study by Oliver and Kandadi (2006), there was a general preference of respondents to non-monetary reward systems like recognition and appreciation in the form of employee-shared options (ESOPs) and profit sharing. The study by Ling et al. (2009), stressed that linking rewards and performance appraisal was most effective in encouraging KS and found monetary rewards better than non-monetary incentives.Given the diverse nature of results from different studies, the importance of the design of the reward system has been emphasised with a suggestion that **an**effective system must be linked with staff interactions and team participation (Al-Alawi et al., 2007; Goh, 2002).

Even though several organizations have embraced KM, only a few had reported having a knowledge office. For instance, in a survey of 158 companies represented by their senior executives, 80% of companies had knowledge management (KM), 21% had a KM strategy and 25% agreed to have knowledge officer (Hackett, 2000).

The role of age and gender has been studied by some researchers. For instance, Yang (2007) found that there was no difference between different age groups regarding knowledgesharing while Alhammad et al (2009) noted that there was no significant difference in gender among the participants in terms knowledge sharing.

Knowledge sharing attitude
According to Fishbein and Ajzen's (1975), knowledge-sharing attitude is the individual's positive or negative emotions about carrying out knowledge-sharing.There is empirical evidence that attitude affects both intension and behaviour and is relevant in the actual sharing of knowledge (Bock et al., 2005). In most studies, individual willingness to share has been equated to attitude and used as the dependent variable (Hsu et al., 2007; Cheng et al., 2009; Xue et al., 2011). In the study by Muhammad et al. (2011), it was noted that even though both extrinsic and intrinsic factors influenced KS attitude and intentions, intrinsic factors like willingness to help others played **a** more significant role.However, there are limitations to the assumption that behavioural intention can predict actual behaviour (Sheena, 2002). In the study by Kwok and Gao (2005), the relationship between extrinsic motivation, absorptive capacity and channel richness and KS attitude were examined. They concluded that while channel richness and absorptive capacity played major roles in individuals KS attitudes, extrinsic motivation had no impact.

Researchers have recognized attitude as the biggest challenge to KS (Hsu et al., 2007).Despite this challenge, it has been stated that individuals are more likely to share knowledge if they possess a positive attitude to it (Xue et al., 2011). This was why it was argued that the fact that status was conferred on a group tendsto change their mind set towards work in order to gain superiority (Brewer and Brown, 1998; Cited in Eckel and Grossman, 2005). There is therefore a conscious group mentality in play during such tasks.Chen and Huang (2007) recognized the role of organizational and personal factors in motivating employees to share knowledge while Moyer (2005, p. 25) noted that if there is no incentive for contributing in an organization "there will be no contribution."The study by Ryu et al. (2003) noted that with respect to physicians and nurses working in the same hospital, professional nurses combine domain and experimental knowledge to deliver quality care.

Therefore, based on the understanding of the study by Xue et al. (2011) in which the willingness to share was equated to attitude and the study by Muhammad et al. (2011) which noted that intrinsic factors like willingness to help others played **a** more significant role, this study proposed that the height of willingness to share would be the added compulsion to share ideas and knowledge outside the scope of work.In other words, if an individual was ready to share knowledge *outside* theirscope of work, that individual must be prepared to share *within* the scope of work. There was no control for the influence of gender in line with most previous studies examining influences on KS attitudes (Muhammad et al., 2011; Amin et al., 2009; Wiersma, 1992; Workman and Williams, 2005; Yang, 2007).

THEORETICAL FRAMEWORK

Generally, it is recognised that KS is an important aspect of knowledge management. From the literature reviewedeight dimensions of strategies to KS were identified and a theoretical model was developed. The strategies identified include management provision of time for KS, the role of technology, publications in the website, the use of newsletter, linking KS to performance appraisal, linking KS to non-monetary rewards and the use of knowledge officer. It is proposed that linking these constructs with KS will positively influence their KS attitudesand encourage more participation in KS. Previous researches have recognised that willingness to share is cardinal to the process of KS (Xue et al., 2011; Muhammad et al., 2011). This willingness has been connected to the KS attitudes and behaviours of employees. The main emphasis of this research is to contribute to the literature and explain the nature of knowledge strategies and their effect on KS attitude. This will help the proper identification of the most efficient ways to stimulate employees to share knowledge in the Ophthalmology hospital. The theoretical framework for this study is shown in Figure 1.

METHODOLOGY

The study is directed to ensure that the objectives are met through the use of already validated questionnaires from previous studies. Hence, the measurement instruments for the evaluation of employees' view about the strategies to KS and their willingness to share were adopted from the study by Sandhu et al(2011). Besides the demographic information, the questionnaires for views on strategies and willingness to share were of seven items and four items respectively on a five-point Likert Scale; 5-Strongly Agree; 4- Agree; 3-Neutral; 2-Disagree; 1-Strongly Disagree. The first item on strategies had a reverse polarity and was converted accordingly during statistical analysis. The KS attitude was measured by the willingness to share ideas outside the scope of work.

In line with previous studies, a convenient sample of 80 senior staff of the Ophthalmology hospital who were supervisors or higher were targeted for the research in order to capture those who were likely to have

made decisions and engaged in KS in the course of their work. (Boateng2007; Jain et al., 2007; Lilleoere and Hansen 2011). In addition, it has been identified that the professional sector has been underrepresented in knowledge generation and sharing research (Alvesson, 2004). Normality tests were carried out and the results showed that all of the variables were not normally distributed. Further statistical analysis included reliability measurement (Cronbach's alpha), Spearman correlation and regression analysis in line with previous studies (Islam et al., 2011; Al-adaileh, 2011).

Sampling Summary

Of 80 questionnaires distributed, 55 were returned giving a response rating of 68.8%. Meanwhile, with one of the returned questionnaires confirmed invalid due to an incomplete response, the overall usable questionnaire rate is 98.8%.

Figure. 1: Theoretical Framework
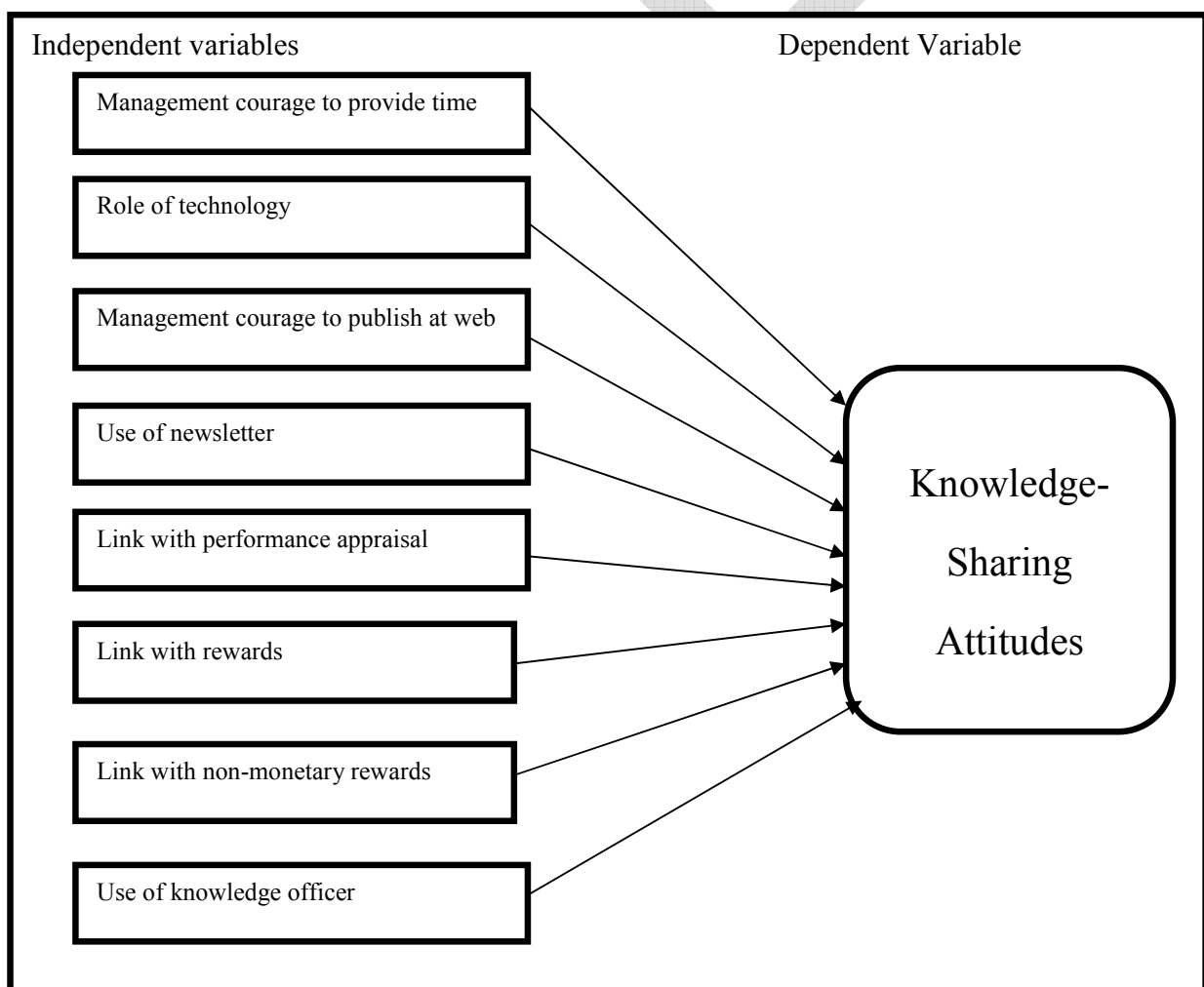
RESULTS
Demographic Analysis
The demographic profiles of the respondents showed that**a** majority of the respondents were female (79.6%) and the racial distribution showed that Malays and Indians were equally represented (42.6% each) while the Chinese were 12.9 %. The age range of 20-30 years was the highest age group and there was an almost equal representation of medical and non-medical staff in the study (Table 1).

Table 1.Respondents' Demographic Profile

Respondents' Profile	Classification	Frequency	Percentage
Gender	Male	11	20.4
	Female	43	79.6
Age	20 – 30 years	24	44.5
	31 – 40 years	12	22.2
	41 – 50 years	8	14.8
	Above 50 years	10	18.5
Department	Medical	26	48.1
	Non-medical	28	51.9
Race	Malay	23	42.6
	Chinese	7	12.9
	India	23	42.6
	others	1	1.9

Descriptive Analysis
The descriptive statistics of views on strategies and willingness to share are shown in Table 2 and 3. When considered in relation to their means, the most prominent KS strategies suggested by respondents were the use of technology, use of the hospital newsletter, management encouragement of publications in websites and the linking of KS with performance appraisal.

The views expressed by respondents on their willingness to share showed that everyone reported a willingness to share knowledge as no one disagreed on the subject (100%). However, not all were willing to exchange ideas outside the scope of work (11.2%).

Table 2: Descriptive Statistics Showing the Ranking of Strategies to Encourage KS

S/N	Items (Represented as E1 to E7)	Agree	Strongly Agree	% of "SA" and "A"	Rank
1	There is general lack of time to share Knowledge sharing can become a culture at THONEH if top management regularly displays and reinforces the theme that "knowledge is the livewire of the organization"	20 (37.0%)	14 (25.9%)	62.9	6
2	Technology plays significant role in promoting KS	36 (66.7%)	12 (22.2%)	88.9	1
3	The management should encourage staff to publish their knowledge on the THONEH website	26 (48.1%)	16 (29.6%)	77.7	3
4	The THONEH newsletter should be used be used to disseminate knowledge and encourage KS among Staff	29 (53.7%)	17 (31.5%)	85.2	2
5	Knowledge sharing will be encouraged if it is linked with performance appraisal of the staff	24 (44.4%)	17 (31,5%)	75.9	4
6	KS at THONEH can be encouraged if it is clearly linked with rewards	23 (42.6%)	17 (31.5%)	74.1	5
7	Non-monetary rewards (such as appreciation and recognition) shall be more effective in encouraging KS than monetary rewards	17 (31.5%)	12 (22.2%)	53.7	7

Table 3: Descriptive Statistics for Views about Willingness to Share or Receive

S/N	Items (represented as B1 – B4)	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	I am willing to share information/knowledge with my colleagues	0	0	0	16 (29.6%)	38 (70.4%)	4.7	0.46
2	I am willing to exchange ideas and knowledge outside the scope of work with my colleagues	0	3 (5.6%)	3 (5.6%)	19 (35.2%)	29 (53.7%)	4.37	0.83
3	My colleagues are willing to share information related to work with me	0	5 (9.3%)	12 (22.2%)	25 (43.6%)	12 (22.2%)	3.81	0.89
4	My colleagues are willing to exchange ideas and knowledge outside the scope of work with me	0	6 (11.1%)	21 (38.9%)	19 (35.2%)	8 (14.8%)	3.54	0.88

Reliability Test

Cronbach's Alpha was used to analyze the degree of internal consistency among the items in the variables. The acceptable limit of the alpha coefficient was set at 0.7 or greater in line with Sekaran (2003). The results of the average inter-item correlation were more than the set value of 0.7 as they were 0.835 and 0.841 as shown in Table 4. Therefore, the data were considered suitable for further analysis.

Table 4: Reliability Analysis

S/No	Description	Number of Items	Cronbach's Alpha
1	Items related to Strategies to KS	7	0.835
2	Items related to willingness to share	4	0.841

Correlation between variables and KS attitude

In line with the study of Al-adaileh (2011), the correlation between the strategies and knowledge-sharing attitude were first analysed to see if they were significantly correlated. The results of the correlation coefficients are shown in Table 5.

Table 5: Correlation of the Items on Strategy with KS Attitudes

		Spearman Correlation with KS Attitude	Sig. 2-tailed	N
Attitude	B2 KS	1.000	.	54
E1	Management courage to provide the time	.289*	.034	54

E2 Role of Technology	-.032	.816	54
E3 Management courage to publish at website	.124	.373	54
E4 Use of THONEH news letter	-.057	.681	54
E5 Linking KS with performance appraisal	.257	.061	54
E6 Linking KS with rewards	.251	.067	54
E7 Linking KS with non-monetary rewards	.361**	.007	54
E8 use of knowledge officer	-.226	.101	54

*Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed)

From Table 5, based on the significant level of p = 0.05, only two out of the eight initiatives were significantly associated with the dependent variable (KS Attitude); namely management courage to provide the time and linking KS with non-monetary reward. The strongest relationship was between KS attitude and linking KS to non-monetary rewards and it showed significant relationship (r = 0.361, p < 0.01). Therefore, the two significant strategies were used to formulate the hypothesis and subsequently subjected to regression analysis.

Hypothesis

Two research hypotheses were formulated thus:

H1: Management encouragement in providing time for KS has **a**positive influence on KS attitudes.

H2: Linking non-monetary rewards to KS has **a**positive influence on KS attitudes.

Regression analysis results

Multiple regressions were used to test individual effects of the two independent variables and also their simultaneous relationships. The summary of the model output is shown in Table 6. It is observed that the Durban Watson value of 1.672 confirms the assumption that the variables were independent. Hence, there is no autocorrelation problem. The fact that the F value is statistically significant (p= 0.008), indicates that a significant relationship exists between the weighted linear combination of the independent variables and the dependent variables. The condition indexes, tolerance and the variance inflation factor (VIF) were all within acceptable ranges, thereby ruling out the possibility of a multi-collinearity problem.

The value of R^2 of 17.2% indicates that the two factors being examined in the model, namely management courage to provide the time and linking KS with non-monetary rewards are capable of explaining 17.2% of the variance in KS attitudes**.**

Table 6: Regression Summary

Variables	Beta	Sig	Tolerance	(VIF)
KS Attitude	3.315			
E1 Management courage to provide the time	.166	.354	.453	2.206
E7 link with non-monetary rewards	.461	.007	.453	2.206

R^2 = 0.172; Durban Watson = 1.672; F value = 5.310; sig F change = 0.008.

Hypothesis testing

H1: Management encouragement in providing time for KS has **a**positive influence on KS attitudes.The coefficient statistics demonstratethat management encouragement in providing time does not have **a**significant impact on KS attitudes at the 95% CI (t = -0.935, Sig = 0.354; CI = -0.523 to -0.191). This is contrary to most findings in the literature that have emphasized the importance of managerial practices in promoting KS in organizations (Al-adaileh, 2011; Chong and Choi, 2005; Sandhu et al., 2011).

H2: Linking non-monetary rewards to KS has positive influence to KS attitudes. The result showed that linking non-monetary reward to KS has a significant impact on KS attitudes. The coefficient statistics are significant at the 95% CI (t= 2.793, Sig. = 0.007; CI = 0.130 to 0.793). It is justified, therefore, that non-monetary reward will positively influence KS attitude and the positive nature of the relationship shows that the higher the reward system, the higher the KS among employees. Several studies supported this assertion (Islam et al, 2011; Alam et al., 2009; Oliver and Kandadi, 2005).

Thus, from the regression output, it can be concluded that the hypothesis related to non-monetary reward, H2, was accepted, meaning that linking KS to non-monetary rewards has a positive influence on KS attitude.

DISCUSSION AND RECOMMENDATIONS

The recognition of knowledge as a major organizational resource has made it imperative that suitable ways of KM implementation should be sought given the influence of factors like human heterogeneity and the tacit nature of knowledge on knowledge sharing (Bartlett and Ghoshal, 1989). As a major process of KM, any hindrance to KS will significantlyinhibit efforts made in KM implementation in an organization. The result of this study has re-echoed the importance of incentives as a major human resource strategy that can encourage KS in organizations. Knowledge is affected by several factors and the difficulty in KS has been connected to its tacit nature, attitude and behaviour. Therefore, the 17.2% explanation of variance in KS attitude by the constructs was therefore considered satisfactory given the added influence of other social factors. A positive attitude is more likely to cause change in employee's behaviour and mind set and invariable affect their intention to share knowledge. Thus, any strategy that can be applied to motivate employees will surely have a positive effect on their attitude and intentions towards KS. In that way, individual commitment, which is cardinal to KM implementation, is created for a sustained application and implementation (Shaw and Edwards 2005). The result of this study further emphasized the need for management to enshrine a knowledge culture through a properly designed reward systemthat will encourage employees to openly share knowledge. Such an atmosphere will greatly reduce the effects of other organizational factors like trust, fear and communication. Hence, it is recommended that management applied a leadership style that will encourage collaborations, shared values and networking within the hospital system in order to properly evaluate the commitment of employees in a non-monetary incentive paradigm and the review of its implementation.

Despite the fact that the sample size is considered adequate for the senior staff of an Ophthalmology hospital, a study involving multiple settings is recommended. It is our opinion that the relationship between linking non-monetary reward to KS and KS attitudes may have been moderated by other factors as explained by the model. Therefore, there may be **a**need to study the interrelationship of this strategy with other organizational social and cultural elements like trust, communication and leadership in this organisation. This study concludes that linking non-monetary rewards to KS will positively influence KS attitude of employees and encourage knowledge sharingat the Ophthalmology hospital.

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