Research

ANTECEDENTS OF KNOWLEDGE SHARING AND ITS IMPACT ON EMPLOYEES' CREATIVITY AND WORK PERFORMANCE

Farwa Muqadas[1], Muhammad Ilyas[2], Usman Aslam[3] & Ubaid Ur Rehman[4]

Abstract

This research aims to investigate and summarize the predictors of knowledge sharing (KS) that can facilitate knowledge sharing practices among employees' in the public sector universities. Research data were collected from 216 employees of public sector universities using the self-administrated questionnaires. It has found that employees switching, death and retirement negatively influenced on knowledge sharing practices in these universities. Moreover, a fear to lose reward, status quo, power, authority, recognition, influence, and psychological ownership are the major factors that can create barriers to KS practices. The results reveal that Knowledge Management (KM) culture, social networking and information technology were fostered knowledge sharing practices among employees. Conversely, knowledge sharing motivation was unable to promote knowledge sharing. There are scant studies conducted to construct and test the conceptual model in real context of knowledge hoarding behavior especially in the perspective of developing countries. These results are beneficial for policy makers and top managements of universities.

Keywords: Knowledge management culture, knowledge sharing, employees' creativity, work performance.

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1,2,3&4- Superior University, Lahore, Pakistan

Introduction

In recent era, the intensity of growing industries and stiff business competition has magnificently influenced the resources, capabilities and strategies of companies. Intellectual capital is most important resource that can give a competitive edge over the competitors. A company may have financial resources, fixed assets and loyal customers but human capital is the core competency of an organization. Competent employees involve in acquiring, creating, sharing, and exploiting knowledge in the wide interest of their organizations (Henri, 2016). According to the knowledge theory, knowledge has been considered as an intellectual asset and a source of competitive advantage (Grant, 1996a, 1996b). Knowledge development, knowledge life cycle, knowledge sharing (KS), and knowledge capture are enhancing innovation and performance of organizations (Rutten, Blaas-Franken, and Martin, 2016). KS practices foster high performance standards, employees' creativity and operational effectiveness in leading organizations (Inkinen, 2016). KS is a voluntary behavior of humans that assists organizational members to share or use knowledge effectively (Nonaka, 1994). Furthermore, organization can eliminate the problems about transformation, enabling technology, renewal, downsizing, and organizational changes by focusing on KS and organizational learning (Bontis, Bart, Sáenz, Aramburu, and Rivera, 2009; Goh and Richards, 1997). Connelly, Zweig, Webster, and Trougakos (2012) state that regardless of the efforts to foster KS however success is not hundred percent.

A numbers of studies have explained the benefits of KS such as improve performance and idea generation (Anantatmula, 2007; Henri, 2016), brings innovation (Bontis et al., 2009; Svetlik, Stavrou-Costea, and Lin, 2007), supports effective organizational changes (Park and Kim, 2015), enhances individual, group and team performance (Haas and Hansen, 2007), fosters new technology (Lee, 2001). Despite all the efforts to foster KM culture, building trust, KS intention, and KS participation, achievement is yet elusive (Al Saifi, Dillon, and McQueen,

2016; Bautista and Bayang, 2015; Connelly et al., 2012). Moreover, some studies have found that increase in reward and high trust level were unable to foster KS practices (Bock, Zmud, Kim, and Lee, 2005; Chow and Chan, 2008; Smith et al., 2006; Swap, Leonard, and Mimi Shields, 2001).

Organizations have focused to foster KS and become more productive than those which have knowledge hoarding issues (Andolsek, 2011; Hansen, 2002). On the other side, organizations spend billions of rupees in recruitment, up-gradation, training and development of employees (Smith et al., 2006). However, employees are leaving their employers whenever they find attractive opportunity for the next job thus it has become the reason of wastage of resources, time, investment, and capabilities. In the public sector universities, employees hoard knowledge for their personal interests, promotions opportunities, powers, authorities, influences, and to become superiors in the boss eyes. Knowledge hoarding means retention of knowledge with the purpose to get benefits in the form of power, influence, and promotions (Andolsek, 2011). Researchers have argued that knowledge hoarding behavior develops because of a fear to lose status, reward and authority (Andolsek, 2011; Holten, Hancock, Persson, Hansen, and Høgh, 2015). Furthermore, employees of public sector have opinion that KS can decrease their authority, supremacy, respect, influence and recognition that can also impact negatively on career success. According to Chaudhry (2005), knowledge has been considered as a source of power therefore it has become a barrier for KS. There are numerous barriers to KS i.e. a lack of international conferences, few efforts to conduct seminars and webinars on research, low numbers of workshops on research software trainings, and no proper guidance. Few other barriers are lower numbers of external and internal networks for KS and also have low focus on the usage of social media tools for KS. KS practices have required a supportive culture and employees' intention to share their knowledge that is not found in the public sector universities. Tacit knowledge of employees cannot be transferable incase of death or move to next employer or

retirement from their organization. Consequently, top management and policy makers are struggling to explore the causes of knowledge hoarding in developing countries. Public organizations are always different with respect to ownership, authority, hierarchy, control, modes of communication, utilization of budgets, functioning, policies, and fostering knowledge sharing practices compared to the private sector organizations (Aslam, Arfeen, Mohti, and Rahman, 2015A; Aslam, Ilyas, Imran, and Rahman, 2016B).

Numbers of studies have been initiated in the private sector of developed countries and in high tech firms that have supportive culture and also have employees intention to KS (Bate and Robert, 2002; Bontis et al., 2009; Hall and Mairesse, 2006; Kim and Lee, 2006; Michael, 2007). Researchers argue that knowledge hoarding behavior flourish among employees in developing countries especially in the public sector academia (Muhenda and Lwanga). To fulfill the gap, this study aims to explore the challenges, trend, and issues to KS practices in public sector organizations. Furthermore, this study aims to suggest that how these barriers can be removed to bring effective changes. The results of this study are beneficial for top management, policy makers, and organizational consultants to develop effective policies to foster KS practices and implement changes.

Literature Review

The word knowledge originated from the Greek era that had researchers such as Socrates, Aristotle, and Plato (Goodwin, 2009). It is also described by the Indian researchers (Wiig, 2000). Knowledge is defined as the understanding of relationships, concepts, effective information and facts required to accomplish a work (Goldstein, 1993). Furthermore, researchers have defined that knowledge can be converted into effective actions for the completion of tasks (Elliott and O'Dell, 1998). Knowledge has been categorized into two forms: tacit and explicit (Polanyi, 1966). Tacit knowledge cannot transfer easily among the employees of an organization. On the other hand, explicit

knowledge can be transferred into hard forms such as books and DVDs. From 2300 years, there are numerous theories and themes of KS that have been found (Schauer, 2014). In dynamic business environment, all types of organizations: government, semi government, and non government give attention to foster KS practices for survival in the stiff business competition (Osborne and Brown, 2005). However, until recently, KS practices cannot be implemented effectively due to the barriers of unsupportive culture, power, influence, authority, promotion opportunities (Swap, Leonard, and Mimi Shields, 2001; Bock et al., 2005). Few western studies suggest that employee's knowledge hoarding behavior flourish even when they are rewarded and encouraged for KS (Bock et al., 2005; Swap et al., 2001). KS can bring effective changes and enhance the performance of employees in any type of an organization (Drucker, 2014).

Knowledge Management (KM) initiatives have focused on fostering KS practices in organizations (Connelly, Ford, Turel, Gallupe, and Zweig, 2014). Factors such as research and development, plans and procedures, science and technology, employees' education, and telecommunication infrastructure contribute to establish KM culture in organizations (Bautista and Bayang, 2015; Bontis et al., 2009). KM culture has a wide role to foster KS in organizations (Hislop, 2009). KM culture can be described as interaction and patterns of behaviors, to develop better understanding that can be learned through socialization process (Bezweek and Egbu, 2010). KS culture includes norms, beliefs, shared values as well as ways of KS among employees (Hauschild, Licht, and Stein, 2001). Moreover, KM culture includes effective communication, employees' participation, commitment, subjective norms, social trust, shared goals, support for KS practices, social network, and introducing new technology. Therefore, it is important to eradicate the barriers of KM culture to foster KS within the boundaries of organizations (Siadat, Hoveida, Abbaszadeh, and Moghtadaie, 2012; Yang, 2007). Knowledge application process and collaborative culture is encouraged by formal training to boost

organizational knowledge repository and KS process for employees to solve problems (Anantatmula, 2007). Researchers have found numerous challenges to foster knowledge sharing however managing an organizational culture to foster KS is one of a difficult challenge (Fahey and Prusak, 1998; Gold and Arvind Malhotra, 2001). Some studies found that organizational culture is a barrier to foster knowledge effectively in an organization (David and Fahey, 2000; McDermott and O'dell, 2001). Chow and Chan (2008) suggests that future study should include social capital factors like organizational culture and social networking to find how KS can be fostered. Furthermore, Riege (2005) argues that there are scant studies that identify the barriers of knowledge sharing in large companies. In the public sector universities, organizational culture is not based on trust, socialization, effective communication, and rewards and recognition compared to the Western culture therefore knowledge hoarding attitude should be flourished. In the public sector universities, employees believe that their juniors or colleagues will be promoted easily if they are more competitive and knowledgeable.

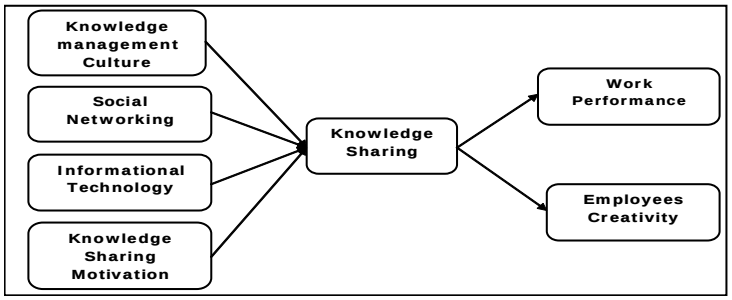
Riege (2005) states KS barriers raises due to a lack of social networking and properly adjusting the organizational culture as per changing environment. Chow and Chan (2008) conducted a research on the importance of social networking to promote KS but they collected data from managers only. Researchers found scant studies on social networking and its importance for KS (Chow and Chan, 2008; Inkpen and Tsang, 2005). Yet, it is not explored that how social netwroking can remove the knowledge hoarding attitude and promote KS in public sector universties especially in the Sub-continent culture. While Riege (2005) argue that socialization network can brush up the KS environment compared to focus on information technology. Previous literature has addressed the role of information technology to foster KS in the Western culture compared to the developing countries. Information technology such as internet, email, intranets, electronic bulletin boards, databases, and electronic data base management system are not frequently used in Asian culture. Social

and economic exchange theories highlights the importance of appreciation, respect, social trust, promotion, reward, and positive intent to share knowledge (Bock and Kim, 2001). However, few western studies have found that knowledge hoarding behavior flourish even when employees are rewarded and motivated for KS (Bock et al., 2005; Swap et al., 2001). Quigley, Tesluk, Locke, and Bartol (2007) argue that there is scant literature about motivational factors to enhance knowledge receiving, sharing, and enhancing. Kang, Kim, and Chang (2008) argue that employees did not share their knowledge because they are afraid to steal their ideas. Furthermore, they have found that there is little progress in research to explore the linkage between KS and its impact on work performance.

***H1**[A]: KM culture fosters KS in public sector universities.*
***H2**[A]: Social networking promotes KS in public sector universities.*
***H3**[A]: Information technology builds KS environment in public sector universities.*
***H4**[A]: KS motivation promotes KS in public sector universities.*
***H5**[A]: KS improves work performance in public sector universities.*
***H6**[A]: KS promotes employees' creativity in public sector universities.*

Figure 1:

Conceptual framework of knowledge sharing



Methodology

This study followed the assumptions of positivisms paradigm which focused on examining the objective reality and empirical relation among predictors of KS and KS influence on work performance and employees creativity. This research was based on deductive reasoning and collected data once from employees of the public sector universities. Moreover, Rita Silva and Caetano, (2014) described the benefits of cross sectional study i.e. time saving, convenient, and extract multiple results simultaneously.

Sample

This study had selected three famous public sector universities i.e., University of Gujrat, Government College University, and University of the Punjab. Purposvie sampling tehcnique was used because of absence of exact population frame, employees on study leave, visting faculty, limited cost, time, travelling, and funding for this study. Hair, Sarstedt, Ringle, and Mena, (2012) provided the standard ranges (200 to 400 sample) for empirical study. Sample calculator was used with 5 % interval and 95% confidence level. Finally, 360 sample size was calculated for this study.

Measures

Sekaran (2014) highlighted the importance of self-administrated questionnaires to achieve maximum response rate in minimum time frame. Furthermore, other researchers also suggested how close-ended questions are useful in several constraints such as limited travelling budget and time to conduct research (Babbie, 2015; Creswell, 2013). Self-administrated questionnaires were tested to examine the validity and reliability on preliminary 50 responses using pilot study (Hair, Black, Babin, Anderson, and Tatham, 2006). Social networking questions were adopted from earlier research and used in the same

wordings (Nybakk, Crespell, Hansen, and Lunnan, 2009). Exploratory factor analysis was performed in which we found all questions of social networking retained and loaded on its original factor. Furthermore, KS motivation questions were taken from earlier study (Hsu & Lin, 2008), minor wording of KS motivation was changed to fulfill the objective of this study, out of 17 questions, 10 items of KS motivation loaded on its factor. Informational technology and knowledge sharing scales of Kim and Lee (2006) were used in this study, all original statements loaded on its factors during exploratory factor analysis. Knowledge management culture was measured by taking a scale of Gold and Arvind Malhotra (2001), all the items of KM culture loaded on its original factor. A thirteen-items scale of employees creativity adopted and all items loaded on its factor (Zhou & George, 2001). Work performance questionnaire was taken from prior research (Guental, Surprenant, and Bubeck, 1984; Igbaria and Tan, 1997), there are 4 questions of work performance scale but 3-items loaded on its factor.

Table 1:

The Main Features of Sample

Categories	Classifications	Frequency	%
	Male	121	56.0
Gender	Female	95	44.0
	20-30	113	52.3
Age	31-40	52	24.1
	41-50	46	21.3
	51-60	5	2.3
Educational Level	Masters	85	39.4
	MS & M.Phil	102	47.2
	PhD	29	13.4
Working Status	Permanent	138	63.9
	Visiting	78	36.1
Experience	1-5	61	28.2
	6-10 Years	111	51.4
	11-15 Years	39	18.1
	16-20 Years	5	2.3
Designation	Research Associate	17	7.9
	Lecturer	113	52.3
	Assistant Professor	78	36.1
	Associate Professor	8	3.7

In Table 1, all characteristics of target sample including gender, age, education level, status and working experience was presented. The majority of respondents were males (56%) and minority was females (44%), these results shown the male supremacy in the public sector universities. Most of the respondents' ages lies between 20-30 years and 102 respondents hold MS/MPhil degrees. The key respondents (113) of this study were lecturer, 36.1% were assistant professor. 63.9% respondents were working on permanent basis in these universities. Moreover, 111 respondents have 6 to 10 years experience while 61 employees fall in the range between 1 to 5 years experience.

Table 2:

Descriptive Statistics Results

Variables	Number of items	Mean	Standard Deviation
Knowledge Management Culture	4	3.10	1.10
Social Networking	3	3.12	0.79
Information Technology	4	2.77	0.91
Knowledge Sharing Motivation	10	2.89	1.01
Knowledge Sharing	3	3.21	1.15
Work Performance	3	3.21	1.11
Employees Creativity	13	3.19	0.76

Descriptive test was conducted to find mean and standard deviation scores. The mean ranges were highlighted that values vary from neutral to agree. Furthermore, these results showed positive trend or positively skewed curve (See Table 2).

Reliability analysis was conducted to find whether these scales are consistent or not. Hair et al. (2006) has given the acceptable standard of alpha values i.e. >=.7. All items of these scales have good reliability as per the acceptable standard that is .7 (Hair et al., 2006). Furthermore, all the alpha values are between .687 to .816 which is acceptable and reliable (See Table 3).

Table 3:

Reliability Coefficient (Cronbach Alpha)

Scale Descriptions	Total Items	Alpha
Knowledge Management Culture	4	0.779
Social Networking	3	0.816
Information Technology	4	0.720
Knowledge Sharing Motivation	10	0.687
Knowledge Sharing	3	0.741
Work Performance	3	0.798
Employees Creativity	13	0.701

Table 4:

Correlation Analysis

Variables Descriptions	Correlation Coefficient (*r*)	Level of Significance (*p*)
Social Networking & Knowledge Sharing	0.253	***
Knowledge Sharing Motivation & Knowledge Sharing	0.276	***
Information Technology & Knowledge Sharing	0.499	***
Knowledge Management Culture & Knowledge Sharing	0.548	***
Knowledge Sharing & Employees Creativity	0.412	***
Knowledge Sharing & Work Performance	0.348	***

Correlation test was applied and found positive relationship among social networking, knowledge sharing motivation, information technology, and KM culture with KS. Furthermore, KS was positively correlated with work performance and employees creativity (See Table 4).

Table 5:

Linear Regression Results

Descriptions	KMC & KS	SN & KS
R^2	0.417	0.339
Adjusted R^2	0.406	0.322
Model Significance	.000	.000
F-value	37.669	31.363
	KMC & KS	**SN & KS**
Un-standardized coefficient	0.269	0.269
T-value	5.048	5.048
P-value	.000	0.000

Linear regression test was conducted to check the influence of KMC and SN on KS. The R^2-value was .417 which means KM culture improves the KS practices in public universities (*β=0.269, T=5.048 p=.000).* In Table 5, the results reveal that SN can increase the KS practices in public universities *(β=0.269, T=5.048., P<0.000).*

Table 6:

Linear Regression Results

Descriptions	IT & KS	KSM & KS
R^2	0.269	0.139
Adjusted R^2	0.251	0.126
Model Significance	.000	.000
F-Value	31.261	21.163
	IT & KS	**KSM & KS**
Un-standardized coefficient	0.281	0.05
T-value	3.932	0.849
Significance Value	0.003	0.397

IT=Information technology, KSM=Knowledge Sharing Motivation, KS=Knowledge Sharing

The results show that IT can be improved the KS practices in public universities *(β=0.269, T=3.932 p<0.003).* However, KS motivation could not foster the KS practices among employees of these universities *(β=0.05, T=0.849, P>3.97).*

Table 7:
Linear Regression Results

Descriptions	KS &WP	KS &EC
R^2	0.211	0.121
Adjusted R^2	0.196	0.117
Model Significance	.000	.000
F-Value	21.114	29.422
	KS&WP	KS &EC
Un-standardized coefficient	0.348	0.198
T-value	5.424	3.424
Significance Value	.000	.000

KS=Knowledge Sharing, WP=Work performance, EC=Employees Creativity, P<0.01

In Table 7, the R^2-value 0.221 showed that KS can improve the level of work performance ($\beta=0.348$, $T=5.424$ $p<0.001$). F-statistics and ANOVA results were valid and reliable. Furthermore, KS practices can foster the employees' creativity ($\beta=0.198$, $T=3.424$ $p<.001$).

Conclusion

This paper has investigated and summarized the predictors of KS and also found that KS can promote the employees creativity and improved the work performance in the public sector universities. Moreover, fear to lose reward, status quo, power, authority, recognition, influence, and psychological ownership are the factors that can create barriers to KS practices. It has investigated that employees switching, death and retirement influenced negatively on KS practices in the public sector universities of Pakistan. The KM culture is one of the important antecedents of KS and it can eradicate the knowledge hoarding behavior among the employees in the public sector universities of Pakistan. Therefore, information technology, and social networking can remove the barriers to KS practices. Finally, KS practices can foster employees' creativity and improve the work performance in the public sector universities.

Implications

The study contributed in the literature of KS practices, employees' creativity and work performance in developing countries. There are scant studies conducted to construct and test the conceptual model in the real context of knowledge hoarding situation.

These results have unique implications that are beneficial for policy makers to foster KS practices and implement effective changes in these universities. This study has suggested that how KM culture, social networking, and information technology can foster knowledge sharing behavior and how KS can improve employees' creativity and work performance.

Limitations and Future suggestions

This research has few limitations as well, i.e. four predictors of KS are taken and those antecedents of KS have only 41% impact to promote knowledge sharing behavior. In future, other antecedents of KS can be taken such as reward, leadership, employee training, communication, trust, loyalty, management support, and organizational environment.

Cross sectional studies can raise the issue of causality and influence negatively on generalizability of results. In future, a longitudinal study can be useful to overcome issue of causality. Finally, purposive sampling can increase the biasness therefore probability sampling technique can be used to overcome the issues of generalizability of the results.

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