Self-Efficacy as a Determined Factor for Knowledge Sharing Awareness

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Abstract—This paper discusses the concept of self-efficacy as a factor that can moderates knowledge sharing among academics in public universities in Malaysia. The partial results of survey are presented from the actual study. This paper aims to determine the level of knowledge sharing awareness and to identify whether the approach is associated with demographic factors (designation, gender, working experience and academic field). Participant included 725 academics from 20 public universities. The level of awareness to share knowledge was at moderate level. The One-Way Analysis of Variance (ANOVA) revealed that there were significant differences on the knowledge sharing awareness across designation, working experience and academic field. Significance was not seen between knowledge sharing awareness on gender.

Index Terms—Knowledge sharing, knowledge sharing awareness, self-efficacy.

I. INTRODUCTION

Today's world economy has evolved and has emphasized knowledge as the basic economic resource. Terms such as capital, natural resources and labor are no longer reliable to be used except for "knowledge" [1]. According to Biejerse [2], knowledge plays an important role for the economic growth, therefore sharing knowledge within an organization is necessary in order for the organization to utilize knowledge for the betterment of the organization.

Knowledge sharing (KS) is not a natural act and need to be nurtured and facilitated [3]–[5], especially on tacit knowledge [6]. A study on Knowledge Management (KM) reveals that technology is not the main issue that deters KS, but the human resource themselves [7]. For example, only seven percent of the companies surveyed by the consulting company report on KM mentioned technology as a barrier to successful managing KM, whereas others mentioned about non-technological problems [7], such as individual barriers [8] and supportive culture for KS [9], [10]. Taylor and Wright [11] also highlight that "the main barriers to implement KM were all people related".

As KS resides within individual [3], [12], [13], people need to be persuaded and human cohesion is greatly demanded [14], [15]. For example, people's non-supportive beliefs in sharing knowledge either formally or informally

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can result in KM efforts to fail in an organization [16]. For that reason, KS awareness is very important to be cultivated among employees within organization to ensure that the importance and contribution of the KS is understood and supported [17].

II. LITERATURE REVIEW

A. Knowledge Sharing

KS is the act of making knowledge available to others within an organization [18]. According to Jain and Sindhu [19], there is a lack of solid theory on KS. However several authors have defined KS as below:

- KS is the behavior of disseminating one's acquired knowledge with other members within one's organization [20].
- KS is about identifying existing and accessible knowledge in order to transfer and tally this knowledge to solve specific tasks better, faster and cheaper than through other solving methods [21].
- KS involves two main processes; knowledge donating (communicating to others what one knows) and knowledge collecting (consulting others in order to learn what they know) [17]. The process seems similar to knowledge transfer whereby it also involved knowledge source and knowledge recipient [22], [23].

The above definitions imply that KS is related to an action which refers to peoples' behaviour or action in sharing or not sharing knowledge, donating and collecting knowledge. This may relate KS as a psychological process that requires a series of initiative to help employees identify the knowledge they possess and then to motivate, enable and encourage them to share that knowledge with others [18]. It is rather a persuasion then a natural act.

B. Self-Efficacy and Knowledge Sharing Awareness

In many organizations, business processes are not designed explicitly for knowledge capture and sharing. For examples, culture of departmentalization often values individual achievement and thus promoting competitive culture rather than collaborative and sharing [4]. In some cases, employees themselves may not know how to find knowledge that already existed in a codified form or in another's person intellectual domain [24]. In order to overcome the 'hoarding' problem, the possible solution includes developing intrinsic and extrinsic motivational programs [4], [25]. Furthermore, it is important to understand people's motivation on sharing knowledge especially the tacit one. We can understand the process of sharing tacit knowledge and also the reason why people are willing or not

to share theirs [15]. Individual motivations seem to be critical in either facilitating or inhibiting KS, and may also affect individual processes of acquiring knowledge [26].

Some of the most possible reasons of why people do not share their knowledge are: 1) they do not know the reason behind KS and what they are supposed to do [27], [7]; 2) they do not know how to share; and 3) they think something else is more important [27]. The lesson learnt from Buckman laboratories (the earliest practice in KS) demonstrates that KS is human nurture and people-oriented, and the organizations are required to motivate employees in KS [28]. Therefore, it is important to further investigate how people's awareness toward sharing knowledge can be nurtured and how positive attitude for KS can be gained. The main issue on difficulty of sharing knowledge, especially on tacit knowledge is an individual factor. Individual motivations seem to be critical in either facilitating or inhibiting KS [26]. The unwillingness to share knowledge is caused by peoples' behavior/misbehavior [21]. This implies that KS is attached to the motivational perspective, and self-efficacy is one of the established motivation theories that can be used to understand the reason why people only share knowledge within certain context [15].

It is argued that even though cultural change is successfully achieved, KS is still quite difficult to practice [28] and requires more individual's positive attitude [29], to share knowledge voluntarily [30]. We cannot force people to share knowledge but we should encourage them to understand the importance of sharing knowledge so that they will act accordingly [31], [32]. This idea highlights the importance of attitude or behavior change in order to make KS happen. It is a claim that people's self-efficacy can inhibit one's intention to share knowledge [33], [34]. An individual is more willing to participate in sharing knowledge if he or she believes that his or her contributions will be valuable to others [7]. Besides, one's sense of competence and confidence is important to get them engaged in KS process [34].

Bandura's social cognitive theory views that people's actions and motivations are based on the perspective of "anticipative, purposive and self-evaluating". That is why one's beliefs of personal efficacy is central to human agency [36]. In relation to KS, self-efficacy determines an individual's action in either sharing or hoarding knowledge. This is because, "people reflect on their efficacy… form intentions that include plans and strategies for realizing them" [36]. The same thing applies in the learning activity. In Bandura's social learning theory, self-efficacy drives "people choice of activities and behavioral settings, how much effort they expend, and how long they perceived self-efficacy" [37]. People with high self-efficacy are assumed to have high job performance [38]. There is a demand for further study on enhancing the positive mood state for social associations which precedes KS behavior and provide feedback to improve individual's self-efficacy [39].

To sum up, an individual's level of efficacy influences KS process and will overcome the problems of knowledge hoarding. In this study the awareness or willingness toward KS is referring to individual's self-concept which is related to self-efficacy and self-esteem. Self-efficacy is defined as a belief about one's ability to execute a future action, whereas self-esteem is defined as a personal judgement of worthiness; attitude of self-approval [40]. Learning through mistakes is as an example of behavior change that is reflected by self-efficacy and self-esteem. An individual may turn to act positively and motivated to learn more or in contrast, may act negatively due to a perception of 'mistakes as the failure factor'. This illustrates that the two concepts are closely related with one another. Therefore it is assumed that an individual who possesses high self-efficacy also holds positive images of his or herself [40].

III. METHODOLOGY

The population for this study is academic staffs in the public universities which covers a total of 20 universities across Malaysia. Academic staffs include professor, associate/assistant professor, senior lecturer, lecturer, assistant lecturer, tutor, and language teacher. Based on the 2006 statistic provided by the Ministry of Higher Education (MOHE), there are a total of 20,989 academic staffs from 19 universities. Thus, the total academic staffs in 20 universities are approximately 25,000. Based on Krejcie and Morgan [41] works in determining sample size for research activities, it is suggested that the appropriate sample size for 30,000 is at least 379. The survey is conducted to academicians in MPU and a set of questionnaires are distributed through e-mail based on MOHE list of directory of experts DOE). Of the 11280 e-mails sent, 725 volunteers are responded.

Descriptive analysis such as frequency, percentage and mean are used to explain on the level of KS awareness. Based on the five point Likert Scale, the cutting points between each scale is identified in order to establish the scoring ranges. The level is categorized into three levels namely *low* (1-2.33), *medium* (2.34-2.67) and *high* (2.35-3). The usage of mean comparison is also used to identify the demographic influence on the responses. In this study, analysis of variance (ANOVA) and t-test are used to test research hypotheses whether there are significance differences of tested variables with demographic profiles of academics.

The measure of KS awareness used is more on assessing individual 'voluntariness' to share knowledge in an institutional and at the same time relate to their level of self-esteem. Three items of KS awareness are adapted from the social self-efficacy by Sherer *et al*. [42] and three items of KS awareness are developed based on the self-esteem concept, particularly on organization-based self-esteem (OBSE) by Pierce, Gardner, Cummings and Dunham [43]. Respondents selected from a four point scale that was coded as binary variables; 'Strongly Disagree = 1' to 'Strongly Agree = 5'. The total amount for each scores were calculated. The questionnaire was pretested to assess the reliability of the instrument. The Cronbach's alpha value was 0.70. The questionnaire was distributed through email to the targeted respondents.

IV. FINDINGS

In general, the KS awareness among respondents is at the medium (*m*=3.41, *sd*= .76) level. Voluntarily sharing knowledge among respondents received the lowest mean

(m=2.88, sd=1.16). However, respondents are aware of the importance of sharing knowledge and do not fear of losing ownership of knowledge if they share their knowledge (m=4.10, sd=1.00). The result also shows that respondents have no problem in sharing knowledge which is not common to others (m=3.83, sd=1.04).

The results show that respondents' level of self-efficacy in KS voluntarism is unimpressive (since the item is the lowest among others), they prefer people to come and approach them in order to acquire knowledge from them. Nevertheless, they still can share knowledge and have high self-esteem in their beliefs about knowledge for public good.

TABLE I: THE LEVEL OF KNOWLEDGE SHARING AWARENESS

	KS Awareness	Mean (n=725)	*SD*
1	Sharing knowledge only when asked/required	3.18	1.38
2	Sharing knowledge to anyone	3.18	1.35
3	Sharing only impressive knowledge	3.30	1.31
4	Sharing knowledge voluntarily	2.88	1.16
5	Willing to share regardless of ownership to knowledge	4.10	1.00
6	Willing to share uncommon knowledge	3.83	1.04
		3.41	**0.76**

The following results show the analysis of the hypotheses testing for mean differences between demographic factors and KS awareness:

H1: There are significant differences between academics' KS awareness and demographic factors (gender, designation, working experience, academic field).

TABLE II: MEAN DIFFERENCES BETWEEN DEMOGRAPHIC AND KS AWARENESS

Demographic	*N*	Mean	*SD*	*F*	*df*	Sig
Gender				-1.616	721	.107
Male	361	3.37	.80			
Female	362	3.46	.71			
Designation				4.029	4	.003*
Professor	58	3.53	.82			
Assoc. Prof	140	3.60	.79			
Senior Lect/ Assist.Prof	150	3.40	.81			
Lecturer	348	3.32	.70			
Tutor	29	3.54	.67			
Working Experience				2.729	6	.013*
<5	170	3.36	.66			
5-9	189	3.32	.77			
10-14	124	3.46	.81			
15-19	65	3.46	.71			
20-24	90	3.55	.83			
25-29	37	3.76	.75			
≥30	40	3.34	.76			
Academic Field				4.311	4	.002*
Engineering	127	3.30	.79			
S&T	184	3.35	.75			
Medical	72	3.70	.80			
Social Sc & Humanities	176	3.40	.77			
Business & Mgt	141	3.51	.69			

*p<.05

The analysis of t-test and One-Way ANOVA were carried out to investigate the mean comparisons of studied variables.

The result has also been extended by using the Bonferroni Multiple Comparison Test to further see the significant mean comparisons of the significant variables. Further analysis shows that there are mean differences between demographic (designation, working experience and academic field) and the level of KS awareness. No significant difference is found between gender and the KS awareness level (Table II).

The overall result shows that the KS awareness level is different between associate professor and lecturer; junior (5-9 years) and senior (25-29 years). Medical sciences show highest level of KS awareness as compared to other fields.

V. DISCUSSION AND CONCLUSION

In this study, the 'self' concept (self-efficacy) is assumed to influence the propensity of KS level among academics. Indeed, it is also related to motivational factors in order to understand people's willingness to share knowledge. The level of KS awareness or willingness to share varies according to the designation category (associate professor vs lecturer), academic field (medical science) and working experience (25-29years).

These demographic factors have the possibility to create gap in KS. According to Ning, Fan and Feng [44], professors or assistant professors have high knowledge and expertise and are most likely to share their knowledge with others. Conversely, this type of group can also give reverse response in KS whereby they tend to hoard knowledge because they believe that unique knowledge can be a source of power. Though Sveiby and Simons [45] confirms that level of knowledge awareness improves with years of experience and age, this study shows contrary results; the group of tutors have high level of awareness. This group of young lecturers whose energy and time are occupied mainly by a large amount of teaching work, have to work hard to improve the quality of their work.

On the other hand, by holding philosophy on academic field it can improve and encourage KS. An academic field that has a philosophy of 'sharing' and 'helping' others will cultivate KS awareness and understanding to share for the sake of public good. This study found that the medical field that have the culture of helping people such as treating patients demonstrate high level of KS awareness than other field that is more related to business and become self-centered and competitive. Ryu, Ho and Han [20] supported that both explicit and tacit knowledge of physicians is vital to the care of patients.

In a nutshell, KS is an act that is related to motivational factor because it is not spontaneous but rather needs to be nurtured. Individuals' willingness to share is related to their self-efficacy and there must be some form of institutional or organizational strategy to boost up peoples' self-efficacy to share.

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