Knowledge Sharing Enhances Knowledge Management Environment and Efficiency

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Abstract

At present the organizations of the world are moving towards an efficient knowledge based development environment. Knowledge sharing is an important tool that turns individual knowledge into group organizational knowledge. Knowledge sharing among employees is a procedure which passes skills and qualifications from one person to another to solve problems, develop new ideas, or implement policies or procedures. Future success of an organization depends on effective knowledge sharing. In this study a survey is conducted among 163 employees in different organizations on knowledge sharing. Data are collected on questionnaire survey on 'Likert five point scale' to measure the observed variables. Factor analysis and structure equation model are developed from collected data by SPSS 20 and AMOS 21. Research shows that knowledge sharing increases the knowledge management practice environment and efficiency of the organization. An attempt has been taken here to show that knowledge sharing increases knowledge management practice.

1 Introduction

Knowledge is the most important resource and is a crucial factor for an organization to sustain its competitive advantage, and to develop strategic plans for business [24]. Knowledge is mainly divided into two types: explicit knowledge and tacit knowledge [15]. Tacit knowledge is first defined by philosopher, physician and chemist Michael Polanyi as "knowledge that is hard to formalize or articulate" [19]. It consists of the hands-on skills, best practices, special know-how, heuristic, intuitions, and so on [20]. Data and information encoded, stored and disseminated are known as content component of the explicit knowledge [12]. This type of knowledge is easily coded, transferred, and shared within an organization [16].

In the 21st century, one of the critical factors for sustainable competitive advantage is how to leverage knowledge resources to develop strategic plans for business. Hence, organizations need to manage knowledge in an effective way [10]. In the knowledge-based view of the firm, knowledge is the foundation of a firm's competitive advantage and the primary driver of a firm's value. Knowledge is initiated from interaction among employees in organizations. If individual does not have to share their knowledge with other people and other groups, limited knowledge may affect the effectiveness of the organization. Knowledge resides within individuals, especially, within

knowledge employees who create, collect, access, and apply knowledge in carrying out their tasks. Consequently, individuals' knowledge do not transform easily into organizational knowledge, and ultimately the transfer of knowledge across individual and organizational boundaries dependent on employees' knowledge sharing (KS) behaviors [7, 23].

Knowledge sharing (KS) is the process by which knowledge is hold by an individual and is converted into a form that can be understood, absorbed and used by other individuals, groups, or organizations through channels or networks between knowledge providers and seekers [9]. In addition, KS is socialization and learning procedure for workers in order to generate organizational innovations through the development of new ideas [21].

Furthermore, Foss et al. [6] has also argued that the organizational and group KS are always embedded in individual behaviors. KS provides huge impacts to the creation of learning organization culture, knowledge, and innovation [3].

This study attempts to investigate the KS that influence KS environment and efficiency in an organizational context.

2 Literature Review

N. Dixon's opinion is that KS is the flow of knowledge (both tacit and explicit) from someone who has it to someone

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who wants it [5]. H. Lin [11] has shown that KS can enhance the opportunities to increase the ability of an organization to fulfill its needs, to produce efficiency in creating competitiveness. Irene Y. L. Chen, Nian-Shing Chen and Kinshuk have identified some key factors: attitudes, subjective norms, web-specific self-efficacy and social network ties, which relate virtual learning community to virtual learning environment. They show that there is a correlation between educational intuitions and business organizations prerequisite knowledge for using the virtual learning community website functions that can help the students to work in a competitive business arena [4]. According to Anju Thapa, a great sense of trust and open communication is essential for transferring knowledge. The author has been selected 60 research scholars from University of Jammu, India, to discuss knowledge management (KM) practices and KS [25].

In a study, Hamid Amini, Reza imanzadeh, Mohsen Rahmanian, Nader Afravi, Moslem Bay and Mahdi Sedaghat explore that there is a positive relationship between tacit knowledge transfer and the ability of employees in decision making. They show the acceptance of responsibility for decision-making by employees, access of employees to related tools for decision making and implementation, and acceptance of responsibility for the consequences of their decisions [2].

M. Sharrat and A. Usoro have observed that KS is influenced by the organizational structure, technical infrastructure, trust, motivation, and sense of community [22]. Sawasen J. Al- Husseini, Ibrahim M. Elbeltagi, and Talib A. Dosa demonstrate that KS process has an impact on process innovation. Their opinion is that if organizations create KS environment among their staff through the sessions, conferences, workshops, etc., and then innovation occurred [1].

Faizuniah Pangil and Aizzat Mohd. Nasurdin emphasize that demographic factors are not related with KS behavior among research and development (R & D) employees. They have found that gender differences play a major role in KS policy. Since, in their study they have realized that in organizations, men are sharing more tacit knowledge than women [18].

In a review paper, Haradhan Kumar Mohajan has discussed the sharing and transferring of tacit knowledge in education and construction industry. He has also highlighted on difficulties, problems, management, and benefits of sharing tacit knowledge [13].

Bader Yousef Obeidat, Ayman Bahjat Abdallah, Noor Osama Aqqad, Abdel Hakeem Oqlah M. Akhoershiedah, and Mahmoud Maqableh have studied the various effects that exist among intellectual capital, knowledge sharing, and organizational performance [17].

Kaisa Henttonen, Aino Kianto and Paavo Ritala in a survey of 595 members of a public organization have examined that the individual-level affects individual work performance and confirm that KS tendency impacts positively on KS behavior in organizations [8].

Guodong Ni, Qingbin Cui, Linhua Sang, Wenshun Wang and Hongyi Huang have tested the mechanism to improve knowledge sharing performance (KSP) with a specific focus on knowledge sharing culture (KSC) and project team interaction (PTI) in 78 Chinese engineering management organizations. Their research has shown that there is a significant positive correlation between KSC and KSP, and PTI [14].

3 Hypotheses
- Hypothesis 1 (H1): Employee knowledge sharing (KS) positively related to increase knowledge management (KM) practice environment in the organization.
- Hypothesis 2 (H2): Employee knowledge sharing (KS) positively related to increase knowledge management (KM) practice efficiency in the organization.

4 Objective of the Study
The objectives of the proposed study KS are;
- to identify the KS practice in organizations,
- to increase the effectiveness of KM by the KS process, and
- to determine the overall performance of the organizations due to KS.

5 Research Methodology
Research methodology deals with the sources of data, sample size, instrument to be used, and statistical tools to be applied for the data analysis. In this research we have used quantitative method to examine the efficient KS practice in organizations.

5.1 Data Collection
To study the organizational KM practice, a study was conducted directly on 163 officers in different organizations of Chittagong Division, Bangladesh. In this research, data were collected on questionnaire survey in the form a 'five-point Likert scale' ranging from 5 = strongly satisfied to 1 = strongly dissatisfied. Data collection for this study began in 10 December, 2016 and ended in 28 April, 2017. In the survey we have found that, 41.7% of the respondents marked on the statement 'strongly satisfied', 30.4% marked on 'satisfied' 20.1% marked on 'neutral', 7.8% marked on 'dissatisfied', and none marked on 'strongly dissatisfied'.

In the study, we have used 11 questions (cat1q1 indicates question 1 of category 1, etc.) on KS, 5 questions (cat2q1 indicates question 1 of category 2, etc.) on KM practice environment and 5 questions (cat3q1 indicates question 1 of category 3, etc.) on KM practice efficiency.

5.2 Data Analysis
Among the respondents 60% were working in banks, 21% in private organizations, and 13% in other organizations. Age category of the respondents was as: 35% were in below 35 years, 42% were in 35 to 45 years, and 23% were in above 45 years. All of the respondents have minimum five years of job experience. In the survey, 86% of the respondents were male, while 14% were female. We have found that almost all the respondents are agreed that KS is essential for the development of the organizations.

We have calculated Cronbach's Alpha (α) for all the respondents of the questions by using software version Statistical Package for the Social Sciences (SPSS) 20. Cronbach's Alpha is a model of internal consistency based on the average inter-item correlation. Measures in this study will be good reliable and internal consistent if $\alpha \geq 0.7$.

Then, we have calculated factor analysis for dividing the questions in different factors by SPSS 20. Finally, we have developed the structure equation model by using SPSS 20 and Analysis of Moment Structures (AMOS) 21.

6 Results and Discussion

The calculated Cronbach's Alpha value is 0.887 (which is > 0.7), which indicates the reliability of the collected survey response data. In the factor analysis Kaiser-Meyer-Olkin Measure of Sampling Adequacy value is 0.867 (at the significance level 0.000). So, we can apply factor analysis for dividing the respondent variable in different categories. The factor loading in to different factors are shown in the Table 1. For the super reliability, factor loadings need to be greater than 0.400.

From the Table 1, the factor leadings for three categories; i) KS, ii) KM practice environment, and iii) KM practice efficiency are; i) 0.537–0.735, ii) 0.476–0.700, and iii) 0.415–0.571, respectively. We observe that, all factor loadings are greater than 0.400, which express that all measurements for each factor have good reliability. The correlations between the factors are shown in Table 2.

The path coefficient for the model by the techniques of Analysis of Moment Structures (AMOS) 21 is displayed in Figure 1. From Figure 1, we see that the factor loading for KS, KM environment, and KM efficiency are: 0.76–1.18, 0.59–1.00, and 0.91–1.14, respectively, which are very high. The error variance for the KS, KM environment and KM efficiency are: 0.38–0.78, 0.44–0.67, and 0.39–0.57 respectively.

The variance for KS is 0.42. In the χ^2 test, we have found that the calculated value of the model is; $\chi^2 / df = 1.37$ (which is < 3), comparative fit index (CFI) value is 0.934 (which is > 0.900), and the root mean square error of approximation (RMSEA) value is 0.049 (which is < 0.080). So, every index meets the standards of the survey and fits nicely with the model. The path coefficient of KS to KM environment is 0.44, which is positive. So, we accept the Hypothesis 1. Again KS to KM efficiency is 0.39 which is also positive. So, we can also accept the Hypothesis 2.

7 Limitations of the Study

Despite the positive motive of the preparation of this paper we believe that there are some limitations of this study. In the collection of data, we have found females are less than the males. As, in Bangladesh the number of female officers are more less than that of males. If we could collect data equally from both sexes, then we believe that the result could be richer. The study is conducted only on 163 officers of Chittagong Division, Bangladesh. We think that this sample size is not large enough to find the very satisfactory result on KS. There are seven Divisions in Bangladesh. If data could be collected from more Divisions or from whole country, we are sure that, the results could be more comprehensive of course. Therefore, we recommend that future researchers can apply this study on more divisions of Bangladesh to increase the credibility our result.

Table 1: Questionnaire with factor loading to measure the category variables.

Category	Item code	Pattern matrix factor		
Knowledge sharing	cat1q1	0.638		
	cat1q2	0.689		
	cat1q3	0.640		
	cat1q4	0.586		
	cat1q5	0.565		
	cat1q6	0.621		
	cat1q7	0.735		
	cat1q8	0.537		
	cat1q9	0.566		
	cat1q10	0.717		
	cat1q11	0.713		
Knowledge management environment	cat2q1			0.490
	cat2q2			0.571
	cat2q3			0.540
	cat2q4			0.466
	cat2q5			0.415
Knowledge management efficiency	cat3q1		0.504	
	cat3q2		0.476	
	cat3q3		0.587	
	cat3q4		0.700	
	cat3q5		0.561	

Note: Extraction method: Maximum likelihood. Rotation method: Promax with Kaiser Normalization. Rotation converged in 5 iterations.

Table 2: Analysis of factor correlation matrix.

Factor correlation matrix			
Factor	1	2	3
1	1.000	0.395	0.473
2	0.395	1.000	0.521
3	0.473	0.521	1.000

Note: Extraction method: Maximum likelihood. Rotation method: Promax with Kaiser Normalization.

8 Conclusion

The purpose of this research is to examine the relationship between KS and KM practice in Chittagong Division, Bangladesh. In the study we have observed that KS has a positive impact on KM practice environment, and also on KM practice efficiency. So, we may increase our effective KS in an organization to create better KM practice environment, which will increase the efficiency of that organization. The results of this survey show that knowledge-sharing activity is an efficient and one of the best methods to enhance the effectiveness of an organization. Hence, the researchers have a great opportunity to do more research in the field of KS to explore and develop organizational knowledge.
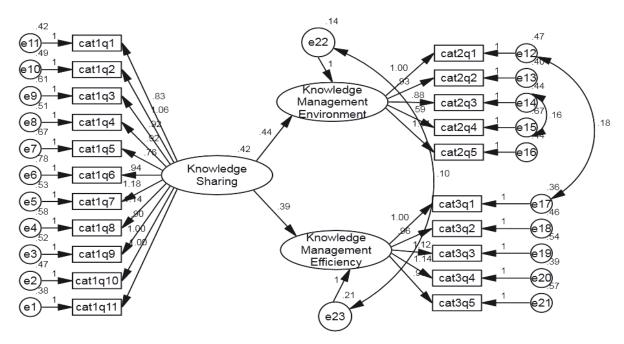
Figure 1: The path coefficient for the KS model by AMOS.

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