Knowledge sharing amongst information professionals in Bangladesh: A quantitative analysis

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Abstract: Effective knowledge sharing is important for the success of any organization. Determining factors that may influence knowledge sharing behavior constitutes an important area of research. There have not been many studies investigating the knowledge sharing behavior of information professionals in the developing world, especially in the context of South Asia. The focus of the larger study is to investigate the factors affecting the knowledge sharing behavior of information professionals in Bangladesh. This paper reports on the study design and the work-in-progress. A research model has been developed to measure the knowledge sharing behavior (KSB), intention to share knowledge (KSI), the motivational factors affecting the desire to share, and attitudes towards specific methods for knowledge sharing. It is hypothesized that the motivational factors and attitude towards methods will affect KSI, which in turn will affect KSB. This paper includes a review of the literature as well as the variables in the research model. Future work will include developing the survey instrument to gather data on the variables, and sending a web-based survey to information professionals in Bangladesh. The study builds on past work on knowledge sharing behavior. The primary contribution is identification of motivational factors (both intrinsic/attitude-based and extrinsic i.e. social or environmental based) that affect the knowledge sharing intention and behavior of information professionals in Bangladesh. It helps identify differences in knowledge sharing behavior between professionals in the developed and developing world, and between individualistic versus collectivistic cultures, and further research in the area of knowledge sharing and knowledge management.

Keywords: Knowledge management, knowledge sharing intention, knowledge sharing behavior, information professionals, organizational knowledge, Bangladesh.

Background and Introduction

In the knowledge-based societies and competitive and dynamic economies we live in, knowledge is a critical organizational resource that provides a sustainable competitive advantage (Davenport and Prusak, 1998). It is insufficient for organizations to rely only on staffing to select employees with specific knowledge, skills, abilities, or competencies, or training systems to help employees acquire them. Organizations must also consider how to transfer knowledge from experts who have it to novices who need to know. For this reason, organizations need to emphasize and effectively exploit knowledge-based resources that already exist within the organization. Such Knowledge Management (KM) initiatives have Knowledge Sharing (KS) as a key component (Sugurmaran and Bose, 2003; Riege, 2005; Akhavan *et al.*, 2010). KS is believed by many organizations as a panacea for knowledge creation, and an important activity to boost innovation, improve productivity, and increase understanding among employees. Applying the knowledge of employees within organization has numerous benefits, including time reduction in the work process, reducing costs, service innovation, improvement of user services, flexibility for rapid changes in the organization, creation of a learning environment, and increased productivity and efficiency (Skyrme, 2000). Leveraging knowledge is only possible when people can share the knowledge they have (Ipe, 2003). Huysman and Wit (2000) believe that the role of KS in organizations is so important

because knowledge management has been created for the purpose of supporting KS. According to Bock *et al.* (2005) and Bohn (2000), the ability of organizations to innovate can be increased through KS.

Libraries, like other organizations, can benefit from knowledge management and knowledge sharing. The basic goal of KM within libraries is to leverage the available knowledge that may help information professionals to carry out their tasks more effectively. It helps make knowledge available to other library professionals within or outside a library. However, KM is an emerging interest and relatively new in the library field. Among the first information professionals who introduced the concept to the Library and Information Science (LIS) profession are Xiaoping (1999) and Rui (1999). Shanhong (2000) describes how libraries can manage the creation and sharing of knowledge among their staff. She proposes that libraries should create and develop their own 'document information resources'.

In many studies, motivations and their role in KSB have been noted (e.g. Agarwal, Poo and Tan, 2007; Agarwal, Xu and Poo, 2011; Akhavan and Rahimi, 2013; Islam, Ikeda an Islam, 2013). Akhavan and Rahimi (2013) found intrinsic and extrinsic motivational factors and attitudes towards methods of KS to play an important role in KSB. However, there is still not enough work on how the motivational factors lead to actual KSB, especially in a South Asian perspective. This is because differences national cultures – whether individualistic or collectivistic (see Hofstede, 1984; Hofstede, Hofstede and Minkov, 2010), and between the developed and developing world, play a major role in how people choose to share knowledge within organizations. While there has been widespread recognition of knowledge sharing, and its potential to enhance library performance and competitive advantages, no research has been done looking at knowledge sharing in the libraries and information professionals in Bangladesh. A notable exception is Islam, Ikeda and Islam (2013), who conducted a study on KSB in Bangladesh, but it was limited to LIS faculty in universities there.

Purpose of the study
Knowledge Sharing (KS) of information professionals has numerous benefits for libraries.
The purpose of the study is to investigate the factors affecting the knowledge sharing behavior of information professionals in Bangladesh. The primary contribution is a model for KSB and the factors affecting the knowledge sharing behavior of information professionals. The role of motivational factors and attitudes towards methods in knowledge sharing intention (KSI) and KSB will be investigated.

The specific research questions investigated are listed below:
- RQ1. What are the factors motivating informational professionals in Bangladesh to share their knowledge? Which of those factors are intrinsic/attitude-based and which of those are extrinsic/environmental based?

- RQ2. What is their attitude towards specific methods for knowledge sharing?
- RQ3. What is the relationship between motivational factors and attitude towards methods on the intention to share knowledge?
- RQ4. What is the relationship between knowledge sharing intention and knowledge sharing behavior?

This paper reports on the study design and the work-in-progress. The next sections present the research model and variables, followed by the literature review and hypotheses. The methodology is briefly discussed. The paper concludes with a brief discussion on future work. Let us now look at the theories guiding the research model.

Research Model and Variables

Two major theories attempted to consider an individual's KS intention and actual KSB within an organization: the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 2005) and the Theory of Planned Behavior (TPB) (Ajzen, 1991). The Technology Acceptance Model (TAM) (Davis, 1989), an extension of TRA, considers the factors affecting intention and use from a technological perspective, but can be applied to KSB as well. Since knowledge is usually difficult to imitate, transfer and replicate, it is important to understand how KS takes place. Intention and behaviors focus on the tendency to be engaged in a certain behavior and are influenced by two factors; the individual's attitudes and a subjective norm that relates to the individual's perception. TRA, TPB and TAM all assume that intention is the leader of the behavior. Thus, in usual conditions, intention leads to the actual behavior. Based on these theories, it is assumed that the intention to guide the behavior and interest in KS acts as a leader of KSB. In other words, KSB is a function of the intention to share knowledge (KSI).
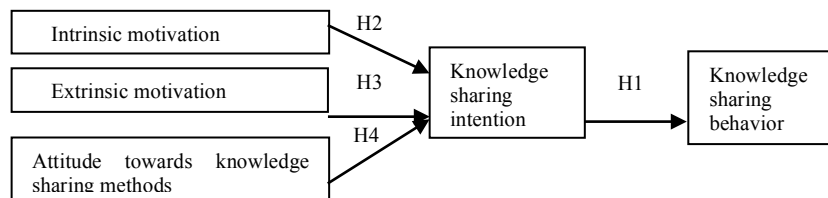

Figure 1. Causal Research Model

The factors, which, in turn affect intention are motivational factors (Akhavan and Rahimi, 2013; Islam, Ikeda an Islam, 2013; Agarwal, Poo and Tan, 2007; Agarwal, Xu and Poo, 2011) and the attitude towards methods for knowledge sharing (Akhavan and Rahimi, 2013). Figure 1 presents the causal research model. It depicts the relationship between intrinsic motivation, extrinsic motivation (both independent variables), attitude towards knowledge sharing methods (independent variable) and KSI, as well as the relationship between KSI and KSB.

Literature Review and Hypotheses

Knowledge sharing behavior. Knowledge sharing (KS) is an activity through which knowledge is exchanged among people, professionals, communities or organizations. It works as culture involved in the exchange of employees' knowledge, experiences and skills through the organization (Sylvio and Chun, 2010). Among the most important benefits of knowledge sharing are knowledge creation (Nonaka and Takeuchi, 1995), creativity and innovation (Bock *et al.*, 2005) and issues such as quality of service, employee empowerment and better decision making. KSB is defined as the degree to which an employee actually shares knowledge with other organizational members (Bock *et al.*, 2005; Ajzen, 1991). KSB is important because it provides a link between the individual and the organization by moving knowledge, which can be converted into competitive value for the organization (Ipe, 2003).

Knowledge sharing intention. Intention is assumed to capture the motivational factors that influence behaviors; it is an indication of an individual's willingness and readiness to behave (Fishbein and Ajzen, 1975). Thus, an individual's intention to share knowledge highly determines his/her behavior to actually share knowledge with others. Research has shown that the best way to predict whether an individual will perform a specific behavior is by asking the

simple question of if he/she intends to perform that behavior. As per TRA, TPB and the TAM theories, KSB is a function of the knowledge sharing intention (KSI). These theories have been widely validated in numerous studies. If information professionals in Bangladesh intend to share knowledge, this is likely to have a positive effect on their actual knowledge sharing behavior. Therefore, we hypothesize:

> ***Hypothesis 1***: Knowledge sharing intention has a positive effect on knowledge sharing behavior.

Motivational factors. Motivations are psychological processes, causing the arousal, direction, intensification and persistence of behavior (Locke and Latham, 2004). The success of knowledge management largely depends upon the intention of organization members in sharing their knowledge, while motivation is also an essential factor influencing KSI (Prodromos and Vrimaki, 2009). Many studies have categorized the motivating features into intrinsic and extrinsic factors. Wang and Noe (2010) and Akhavan and Rahimi (2013) identify a number of these factors.

Intrinsic Motivation / Attitude. Intrinsic motivation is defined as performing an activity due to its inherent satisfaction rather than some separable consequences. An intrinsically motivated person likes to act for the fun or challenge entailed rather than the external prods, pressures, or rewards. For humans, the intrinsic motivation is not the only form of motivation, but it is a pervasive and important one (Ryan and Deci, 2010). It relates with friendly and intimate relations, interpersonal trust, success, honesty, responsibility, commitment and loyalty, religious beliefs, respect, self-management, organizational justice, social status, organization's compliance with demands, learning, growth and progress, the usefulness of knowledge sharing, enjoyment of helping others, belonging to the organization, a sense of altruism, social reputation, retaliation, hope for the future organization, self-esteem, acknowledging others, a sense of ownership, boast of knowledge (Akhavan and Rahimi, 2013).

In the TRA and TPB theories, attitude factors have been tested and shown to be significant predictors of organizational behavioral intentions. Shin, Ramayah and Jahani (2008) showed that an absence of the attitude towards knowledge sharing can lead to selfishness, knowledge restraint and conflicts between professionals. As per the TAM model (Davis, 1989), the perceived benefit or perceived usefulness (an intrinsic factor) of knowledge sharing positively affects the intention to share knowledge. This, and other intrinsic factors such as the desire to learn or excel, the learning orientation (Gray and Meister, 2004, Agarwal, Xu and Poo, 2011) have a positive effect on the intention to share knowledge. Therefore, we hypothesize:

> ***Hypothesis 2:*** Intrinsic motivation has a positive effect on knowledge sharing intention.

Extrinsic Motivation / Social or Environmental factors. Extrinsic motivation pertains to an activity being done to attain some separable outcomes. It refers to factors originating inside a person. People are extrinsically motivated when they are engaged in activities as a means to obtain a tangible goal (Brehm *et al.*, 2002). This motivational factor relates with job promotion, autonomy of work, financial rewards, non-financial rewards, management support, recognition, challenge of work, reputation, good policies, participation in decision making, the appointment of managerial jobs, transfer of authority, health and safety work and salary (Akhavan and Rahimi, 2013). Many of these factors play an important role in KSI. Therefore, we hypothesize:

> **Hypothesis 3:** Extrinsic motivation has a positive effect on knowledge sharing intention.

Attitude towards knowledge sharing methods. Knowledge can be classified into explicit or tacit. Explicit knowledge can be expressed in a formal and systematic language (Nonaka and Takeuchi, 1995). On the other hand, the hidden/implicit knowledge that exists within a person and is difficult to describe and transfer is known as tacit knowledge (Polanyi, 1996). KS methods are illustrated in two ways: 1) as methods of knowledge sharing explicit knowledge (in paper form, in repositories and databases) and 2) methods of interaction which includes storytelling, community of practice, peer assistance, coaching, seminar presentations, mentoring, meetings, after action review (AAR), quit interviews, job rotation, conference, in-service training, teamwork, interaction through information technology (tacit knowledge sharing) (Nonaka, 1994).

The TAM model shows a positive relationship between ease of use and intention to use. Any knowledge sharing method that is easy to use has higher chances of leading to an intention to use, as compared to methods that are more difficult to adopt in practice, or the ones that require greater effort on the part of the information professionals. This ease of use (as well as access or availability of the methods in the workplace, and familiarity with the methods) affects the attitudes that these professionals have towards specific methods. Therefore, we hypothesize:

> **Hypothesis 4:** The attitude towards knowledge sharing methods has a positive effect on knowledge sharing intention.

Let us now briefly review the methodology to be adopted for the study.

Methodology

As the construction of the present study deals with motivations, attitudes towards KS methods, and intention of knowledge sharing, a questionnaire survey will be conducted to test our hypotheses. A web-based version of the questionnaire will be designed. To ensure validity of survey items (Agarwal, 2011), items for the survey questions will be based on prior studies where applicable (Bock *et al.*, 2005; Wang and Noe, 2010; Akhavan and Rahimi, 2013) and self-developed where needed. The survey questions will use a 7-point Likert scale (1=strongly disagree, 7=strongly agree) where applicable. A two-step sorting procedure (Agarwal, 2011) will be carried out to ensure the construct validity of the items of the constructs in the research model. After a pre-test, IRB permission will be obtained to carry out the study. Questionnaires for the pilot and main test will be emailed to 'LISBD' (Library and Information Science Professionals, Bangladesh https://groups.google.com/group/LISBD) and 'BALID-BD' (Bangladesh Association of Librarians, Information Scientists and Documentalists https://groups.google.com/group/BALID-BD), the only Google groups for communicating and networking amongst information professionals in Bangladesh.

The quantitative analysis will be based on Agarwal, Xu and Poo (2011). Descriptive statistics will be recorded. To measure the reliability of the measurement items, Cronbach's alpha will be reported. An exploratory factor analysis will be carried out on the pilot data. Measurement model testing will be done using LISREL to ensure high construct convergent and discriminant validities. A confirmatory analysis will be conducted for the data collected from the main study. Discriminant validity will be checked based on a construct correlation table. Finally, we will carry out the hypothesis testing using Multiple Regression.

Conclusions and Future work

We're presented a model for factors affecting knowledge sharing behavior in the context of

information professionals in Bangladesh. The next stage involves finalizing the questionnaire and gathering data from the professionals over the web. Data will be analyzed to determine the extent to which the hypotheses will be supported. It will also help test the model presented. Insights gained from the study will build on past work on knowledge sharing behavior and methods of KS as well as the application of organizational theories to library and other information settings. It will help identify differences in knowledge sharing behavior between professionals in the developed and developing world, and between individualistic versus collectivistic cultures, and further research in the area of knowledge sharing and knowledge management. We believe that provision of motivational factors, as well as specific knowledge sharing methods will lead to actual knowledge sharing behavior amongst the information professionals in Bangladesh.

References

Agarwal, N.K. (2011). Verifying survey items for Construct Validity: A two-stage Sorting Procedure for Questionnaire Design in Information Behavior Research. *Proceedings of ASIS&T 2011 Annual Meeting* (New Orleans, Louisiana, Oct 9-13).

Agarwal, N.K., Poo, D.C.C. and Tan, K.H. (2007). Impediments to sharing knowledge outside the school: Lessons learnt from the development of a taxonomic e-learning portal. In *Proceedings of the International Conference on Information Systems (ICIS 2007)* (Montreal, Canada, Dec 9-12, 2007), Paper 81, 1-16.

Agarwal, N.K., Xu, Y. (C.) and Poo, D.C.C. (2011). A Context-based Investigation into Source Use by Information Seekers. *Journal of the American Society for Information Science and Technology*, 62(6), 1087-1104.

Ajzen, I. (1991). The theory of planned behavior, *Organizational Behavior and Human Decision Processes,* 50,179- 211.

Ajzen, I. and Fishbein, M. (2005). The influence of attitudes on behavior", in Albarracın, D., Johnson, B.T. and Zanna, M.P. (Eds), The Handbook of Attitudes, Erlbaum, Mahwah, NJ, 173-221.

Akhavan, P., Edalati, M., Sharifi, S. and Hosnavi, R. (2010). The challenges of knowledge management portals application and implementation: an Iranian organizations case study, *International Journal of Industrial Engineering Computations*, 1(1): 79-93.

Akhavan, P., Rahimi, A and Mehralian, G. (2013) Developing a model for knowledge sharing in research centers, *VINE, The Journal of Information and knowledge management system,* 43(3): 357 – 393

Bock, G.W., Zmud, R.W., Kim, Y.G. and Lee, L.N. (2005).Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, *MIS Quarterly*, 29(1): 87-111.

Bohn, R. (2000). Stop fighting fires, *Harvard Business Review*, 78(4): 83-91.

Brehm, S., Kassin, S. and Fein, S. (2002) *Social Psychology*, Houghton Mifflin, Boston, MA, pp. 59-60.

Davenport, T and Prusak, L. (1998). *Working knowledge: How organization manage what they know*, Harvard Business School Press, Cambridge, MA

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3): 319-340.

Fishbein, M. and Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley

Gray, P.H. and Meister, D.B. (2004). Knowledge sourcing effectiveness. *Management Science*, 50(6), 821–834.

Hofstede, G. (1984). *Culture's Consequences: International Differences in Work-Related Values* (2nd edition). Beverly Hills, CA: SAGE Publications.

Hofstede, G., Hofstede, G.J. and Minkov, M. (2010).*Cultures and Organizations: Software of the Mind* (3rd edition). New York: McGraw-Hill.
Huysman, M. and Wit, D. (2000).*Knowledge management in practice* in Edwards, J. and Kidd, J. (Eds), Knowledge Management Conference (KMAC 2000), Birmingham

Ipe, M. (2003) Knowledge sharing in organizations: A conceptual Framework, *Human Resource Development Review*, 2(4): 337-359

Islam, M.A., Ikeda, M. and Islam, M. (2013) Knowledge sharing behavior influences: A study of Information Science and Library Management faculties in Bangladesh, *IFLA Journal*, 39(3): 221-234
Locke, E.A. and Latham, G.P. (2004) What should we do about motivation theory? Six recommendations for the twenty-first century, *Academy of Management Review*,29(3):388-403.

Nonaka I and Takeuchi H (1995) *The knowledge-creating company: How Japan companies create the dynamics of innovation*. New York, NY: Oxford University Press.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation, *Organization Science,* 5(1): 14

Polanyi, M. (1996), *The Tacit Dimension*, Doubleday and Company, Garden City, NY.

Prodromos, D.C. and Vrimaki, E. (2009), "Knowledge sharing behavior of bank employees in Greece", Business Process Management Journal, Vol. 15 No. 2, pp. 245-266.

Riege, A. (2005), "Three-dozen knowledge sharing barriers managers must consider", Journal of Knowledge Management, Vol. 9 No. 3, pp. 18-35.

Rui, Chen (1999). "Thoughts and Technologies of Knowledge Management", *Information Knowledge in Libraries*, 1999 (1), 10-13.

Ryan, R. and Deci, E.L. (2000), Intrinsic and extrinsic motivations: classic definitions and new direction, *Contemporary Educational Psychology*, 25: 54-67

Shanhong, Tang (2000). Knowledge Management in Libraries in the 21st Century, paper presented to IFLA 66, Jerusalem, 13-18 August 2000**.**

Shin CH, Ramayah T and Jahani S (2008) Using theory of reasoned action to explain intention to share knowledge among academics. Available at: www.apera.nie.edu.sg/activities/ . . . /APERA08_Day_3_Programme.pdf (accessed 10 May 2012).

Skyrme, D.J. (2000) *Developing a knowledge strategy: from management to leadership*, in Morey, D. (Ed.), Knowledge Management, MIT Press, Cambridge, MA.

Sugurmaran and Bose (2003) Application of knowledge management techniques in customer relationship management, *Journal of Knowledge and Process Management,* 10(1): 3-17.

Sylvio, C. and Chun, W.C. (2010) The individual and social dynamics of knowledge sharing: an exploratory study, *Journal of Documentation*, 66(6): 824-846.

Wang, S. and Noe, R.A (2010) Knowledge sharing: A review and directions for future research, *Human Resource Management Review*, 20(2): 115-131.

Xiaoping, S. (1999). Knowledge Management of Libraries in the 21st Century, *Library Magazine,* 8:29-32.