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Abstract

Knowledge is a powerful resource that enables individuals and organizations to achieve several benefits such as improved learning and decision-making. Repository knowledge management system (KMS) assists organizations to efficiently capture their knowledge for later reuse. However, the breadth and depth of a knowledge management system depends on the magnitude of knowledge contributed to the system. This paper aimed to empirically investigate the motivators of knowledge sharing behavior and the individual benefits of such behavior in a culture where knowledge is perceived as power and private. Based on 104 employees in a major private petroleum organization in Oman and the partial least square analysis methodology, the results suggested that knowledge contributors were motivated by the system technical characteristics and the organizational-culture dimensions such as management support and rewards policy. Information technology service quality and peers trustworthiness were not significant motivators for sharing knowledge.

1. Introduction

Knowledge is a powerful assets; it can be viewed as an object that can be codified, manipulated and communicated [4]. Organizations can achieve several benefits through knowledge management (KM) [8]. The power and benefits of knowledge and its management can be realized through individual and organizational learning processes. Knowledge management has become one of the main imperatives of the information age economy [4]. Knowledge management systems (KMS) are information systems that are developed to boost the effectiveness of the organization's knowledge management.

The breadth and depth of a knowledge management system (KMS) depends on the magnitude of knowledge contributed to the system. Thus, knowledge contribution (sharing) is a critical KM process. Without the codified knowledge, KMS cannot operate. Therefore examining the factors that affect the individual knowledge contribution behavior is essential to the success of the deployment of organizational KMS. Individual experts spend the time and efforts to create explicit knowledge and store it on a repository (organizational memory) for future organizational reuse. However, limited studies have focused on individual KMS use (such as knowledge contribution) [18]. Moreover, the cultural aspect is a key ingredient to the success of KMS [8, 27, 30]. Thus, an integration of social and technical dimensions is crucial for this KMS investigation.

Persuading individuals to contribute their knowledge to organizational repository KMS is even more challenging in an Arabian Culture such as Oman. In the Arab culture, knowledge is generally perceived as power and private. Thus, they will most likely feel reluctant to share their knowledge (power) with others, because they might loose their value and competitive advantage. Nevertheless, the deployment of KMS is very essential for developing countries to efficiently manage their knowledge and build their human resources [33]. Thus, developing a knowledge-culture is very crucial to promote the individuals' knowledge sharing behavior and consequently have a successful KMS deployment in these countries. Very limited study investigated the determinants of a successful KMS deployment in the Middle East and Oman specifically. Little research, however, indicated the deployment of organizational KMS requires combination of technical and social (organizational culture) factors [1, 2, 3]. This study took a closer look specifically at the motivators and benefits of individuals' knowledge sharing behavior in Oman.

Consequently, the main objective of this paper was to empirically examine the social and technical factors that affect the individual's behavior toward knowledge sharing to repository KMS. It specifically investigated the effects of system's quality, service quality, management support, rewards policy and peers trustworthiness on knowledge sharing. It also examined the benefits that individuals gain from sharing and codifying their knowledge to a repository KMS.

The next section discusses the background literature of knowledge sharing process, the determinants of knowledge sharing behavior and the benefits of knowledge sharing. The literature section is followed by the study framework and hypotheses, methodology, analysis and conclusion sections respectively.

2. Background Literature

Knowledge Sharing Process

Knowledge sharing is the sharing of one's own knowledge to other individuals; it is one of major organizational KMS processes [6]. Knowledge sharing through a repository KMS is what Alavi and Leidner (2001) refers to as codification and storage process, the process of storing the explicit knowledge for later use[4].

Repository KMS is one of two traditional approaches, the most popular one, for the development of organizational KMS, along with the network model [4, 8]. The aim of this approach is to codify the organization's explicit knowledge to create an organizational memory. The development of a repository KMS offers several advantages for organizations [4]. It helps in establishing "organization memory" (OM): general, explicit and articulated knowledge of the organization. Accordingly, it helps in efficiently storing and reapplying workable solutions. Repository KMS also speed up and broaden the traditional knowledge sharing for socializing newcomers, that is, the transmission of the cultural rituals and routines [8]. This is along with several direct and indirect organizational benefits.

However, the value of the repository KMS depends on the amount and the quality of knowledge that is stored on it. As a behavior, knowledge sharing may be deterred by several social inhibitors. These main social inhibitors of knowledge sharing are fear of (1) losing value (power), (2) losing work time (cost), and (3) misinterpretation of the shared knowledge [8, 15, 27]. Individuals feel that they lose their competitive advantage when they share their expertise with others. They also feel that knowledge sharing will cost them a lot of time that they would rather spend on personal work. Also, individuals may fear that their peers who might utilize their knowledge may misinterpret the shared knowledge and that may cause bad work consequences. At a technical level, knowledge contribution involves the task of storing/uploading knowledge to repository KMS (Maier, 2002). Thus, a good system quality with an effective and efficient storage/upload function is critical for individuals' knowledge contribution.

Little research investigates knowledge sharing as a measurement of KMS usage. For example, Marks (2001) measured knowledge sharing by: (1) frequency of contribution, and (2) efforts to contribute knowledge that has positive value for the organization[23]. Maier (2002) proposed that knowledge-publication might be measured by number/size of knowledge elements published per topic [24]. To avoid the problem resulting from using self-reported objective measures [9], in this paper, knowledge contribution is measured by users' perceptions of the extent to which they contribute/upload knowledge to the repository KMS.

Determinants of Knowledge Sharing

Generally, an effective deployment of a KMS requires several factors. There are several technical and social factors that influence the knowledge sharing behavior. Based on DeLone and McLean 2002 IS Success Model, the technical factors that affect any information system use are related to information quality, system quality and service quality[9]. Information (or knowledge) quality is critical only for knowledge utilization not knowledge sharing behavior. For knowledge sharing and codification, system quality refers to the quality of the system storage/upload function.

Based on the management and IS literature, organizational culture (Social factors) is very crucial on knowledge management. Corporate culture plays a key role in the success of KMS. Culture is defined as the shared values, beliefs and practices of the people in the organization [29]. Culture values form an organization's norms and practices, which consequently control employees' behaviors such as knowledge sharing [10].

Several dimensions of knowledge culture have been highlighted by several theoretical and qualitative studies [10, 21, 27]. The most cited social dimensions are management support, rewards policy, and trust. Few KMS studies have included a cultural construct in their model. This study aimed to provide better understanding of the dimensions of KMS culture that motivate individuals' knowledge contribution to a repository KMS. It specifically investigates the effects of management support, rewards policy, and peers trustworthiness on the individual's knowledge sharing behavior. Management support is very important to clarify and acknowledge the importance of KMS, knowledge sharing to the organization's success. Management support is also important to provide individuals time to share and codify knowledge. Rewards policy is another important factor that motivates KMS users to spend time and efforts to contribute knowledge to the KMS [27]. Peers-trustworthiness motivates knowledge contributors to share knowledge [8]. More discussion on these factors is provided in the hypotheses section.

Benefits of Knowledge Sharing

Based on DeLone and McLean's 2002 model of IS success, the IS use may result in net benefits (an individual and organizational benefits)[9]. This paper investigated the individual benefits. There are several individual benefits that may result from knowledge sharing behavior [14, 24]. Based on Herzberg's two factors theory, Hendriks argued that individuals share knowledge because of motivation factors rather than hygiene factors [14]. Motivation factors are related to achievement, responsibility, recognition, work-challenge, and operational autonomy. Hygiene

factors are salary, bonuses and penalties. KMS also improves individuals' performance and productivity in terms of time and speed of the knowledge sharing process [24]. These benefits may be classified as tangible, intangible and performance benefits.

3. Study Framework & Hypotheses

Study framework
This study investigated the motivators and benefits of the individual's knowledge sharing to a repository KMS. It empirically examined the effects of the system quality, service quality, management support, rewards policy and peers trustworthiness on the knowledge sharing behavior to a repository KMS. Figure 1 illustrates this study framework.

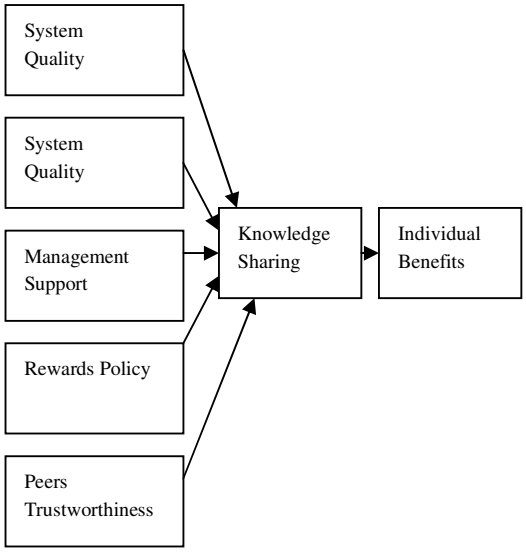

Fig. 1: The Study Framework

Study Hypotheses
System quality. System quality refers to the ease, speed, completeness, and effectiveness of the storage/upload function of the KMS. As for knowledge sharing and codification, it is very important to have a KMS structure that enables faster and easier codification of knowledge [4, 8]. Advanced storage and retrieval tools can effectively enhance organizational memory, repository KMS [4]. In a qualitative study, the ease of storage found to encourage people to contribute knowledge [12]. Thus, we hypothesize the following:
Hypothesis (1): Higher system quality improves knowledge sharing to a repository KMS.

Service quality. Service quality involves the quality of IS staff support to the system's end-users. It is assessed here by the five indicators: reliability, responsiveness, assurance, and empathy (based on [19]), and training. Users of any system have similar criteria for evaluating service quality [28]. IS effectiveness measurement is undermined by ignoring service quality [9]. For effective KMS deployment, service quality is also important [24]. Reliable. Responsive, understandable, and available IT support staff is essential to motivate KMS users' participation. Also, training is needed to improve the success of an information system [32]. Thus, we hypothesize the following:
Hypothesis (2): Higher service quality improves knowledge sharing to a repository KMS.

Management support. Management support here refers to clarifying the goal, vision and importance of a KMS, and encouraging end-users [8, 11]. Management's open approval and acknowledgement of knowledge exchange reduces individual experts' fear of losing their values. Also, providing employees the time to share knowledge encourages them to spend them to make an effort to do so. Management support is extremely critical to endorse the KMS and consequently change employees' attitudes. In the Arab culture, managers are recognized as high authority [5], and their support for KMS projects, which are emerging systems, certainly enhances employees' confidence to utilize the stored knowledge for problem solving and decisions making. The World Bank report (1998) indicated the importance to have a plan for KMS[33]. Therefore, the following hypothesis is proposed:
Hypothesis (3): Higher management support improves knowledge sharing to a repository KMS.

Rewards policy. Rewards are "non trivial" monetary and non-monetary incentives. Rewards policy is a critical factor for KMS especially for knowledge sharing because the breadth and depth of a KMS project is based on the participation of the employees to create and codify their knowledge in these systems for others' use. It encourages employees to spend time and make the effort to create and codify their explicit knowledge [8]. Without good incentives employees will be reluctant to exchange and contribute their own knowledge to the KMS [27]. Therefore:
Hypothesis (4): More effective reward policy improves knowledge sharing to a repository KMS.

Peers trustworthiness. Trust is defined as a set of mutual expectations shared by people involved in collaboration and exchange [35]; it is considered as a critical factor for knowledge exchange. In terms of knowledge contribution, trust is referred to as the trustworthiness of the knowledge utilizers. Knowledge sharing or "selling" in an organization depends on the trustworthiness of the knowledge utilizers (or buyers) [8]; if the knowledge buyers do not give credit to the knowledge sellers, and pretend that the knowledge is theirs; then knowledge sellers

gain nothing. Thus, peers-trustworthiness reduces knowledge contributors' fears, and encourages them to share. The significance of trust in several knowledge activities including knowledge externalization was found to be empirically significant [22]. Consequently, the following hypotheses are proposed:
Hypothesis (5): Peers trustworthiness improves knowledge sharing to a repository KMS.

Individual benefits. As indicated earlier, there are several benefits individuals may gain from contributing their knowledge to a repository KMS [14, 24]. These benefits are related to tangible benefits such as long-term salary increment or promotions, intangible benefits such as reputation, and autonomy and performance benefits such as more efficient and faster knowledge sharing process. Consequently:
Hypothesis (6): Higher knowledge sharing to a repository KMS results in higher individual benefits.

4. Study Methodology

Participants
The sample that was studied includes 104 employees in a major private petroleum company in Oman. The company accounts for about 90% of the country's crude-oil production and nearly all of its natural-gas supply. Oil is the major industry in Oman. Based on 2005 statistics published on the company's website, most of the employees (3784 staff) of the company are local, which represent 82% of the total employees in the company.

The sample included KMS users of a specific organizational knowledge management system in this organization. The organization developed this KMS because of business, technological and cultural factors. The objective of the organization is to enhance the transparency and the accessibility of the organization's information and knowledge throughout the organization, so employees are able to access it from anywhere. The system is a mean to transfer information/knowledge within one department or across departments. For example, petroleum engineers across several oil fields can use the system to share or locate common problems' solutions. Also information/knowledge can be shared across several departments such as between personnel and finance departments or drilling department and geophysicists or petroleum engineers.

Based on the IT department representatives, this investigated system is a web-centric application, with strong integration with the MS-Office suite and mail. It provides employees to store search and retrieve organizational documents, information and knowledge. Any employees in the organization can voluntarily access the system from the organization's web home page. However, limited number of employees can contribute (or store) knowledge to the system. These 104 participants represent KMS users who are authorized to contribute (codify) knowledge to the system. The 104 sample-size satisfies the partial least square (PLS) analysis methodology sample requirement.
Study Design
Data was collected through a survey questionnaire of the perception of the employees; the questionnaire was filled in through electronic means (a web-site or by filling out an electronic MS-word format copy). The study sample was invited through email by an official contact person (established from a prior investigation) in the human resources department at the participating organization. Based on the contact person's suggestion, the applicable sample was randomly selected from the organization's email lists. The study was conducted in English (the typical medium of business activities in Oman).

Questionnaire
The questionnaire contained the constructs to be measured for quantitative analysis, along with 10 demographic questions (e.g., gender, age, degree, KMS experience, work experience, and job function). Construct measurements items were phrased according to a 7–point Likert scale. For the study's independent constructs, the scale was defined as follows: 1= strongly disagree, 2= disagree, 3= somewhat disagree, 4= neither agree nor disagree, 5= somewhat agree, 6= agree, 7= strongly agree. For the dependent constructs, the scale is defined as follows: 1= Never, 2= Very infrequently, 3= infrequently, 4= Sometimes, 5= frequently, 6= Very frequently, 7= Always. A "Not applicable" option was also given for all constructs to ensure that individuals' ratings are valid responses.

The questionnaire included 33 indicators to examine this study's theoretical model. Some of the measurements were based on previous studies such as system quality (Modified from on [9]) and service quality (modified from [19]). The new self-constructed measurements were developed based on the relevant literature by the method proposed by Moore and Benbasat (1991)[26]. New self-constructed measurements are management support, rewards policy, peers trustworthiness, knowledge sharing and individual benefits

5. Data Analysis and Findings

PLS analysis methodology
Data was analyzed by the PLS-Graph 3.0 software. PLS is a variance-based structural equation model that allows path analysis of models with latent variables. In PLS, a distinction should be made whether the indicators are reflective or formative [7]. Reflective indicators measure the same aspect of the underlying latent construct, whereas the formative indicators measure several aspects of their related latent construct. Each indicator may be correlated

with the latent construct but not necessarily with other indicators in their block. In this study, indicators were considered formative because they measure several aspects of the underlying construct.

Sample profile

Most of participants were males; female represents only 20%. Around 97% were at least 26 years old. About 86% had at least two years of KMS-use experience. The majority of the participants, 73%, were Omani. About 56% of the participants were group leaders, project managers or department heads. About 50% of the participants were engineers; 19% were analysts; and 13% were consultants. Four percent of respondents had PhD, 25% had Master degree, 10% had postgraduate diploma, 51% had Bachelors degree, and 10% had diploma. Table 1 shows a summary of this profile.

Table 1: *Sample profile*

Question	**%**
Gender	
Female	20%.
Male	80%
KMS Experience	
>= 2 years	86%
< 2 years	14%
Nationality	
Omani	73%,
NonOmani	27%
Job Position	
Engineers	50%
Analysts	19%
Consultants	13%
Others	18%
Education	
PhD	4%
Master	25%
Postgraduate diploma	10%
Bachelors	51%
Diploma	10%

Reliability and validity

With PLS, the reliabilities of the measurements were evaluated through internal consistency reliability, and the validity was measured by the average variance extracted (AVE), which refers to the amount of variance a latent variable, captures from its indicators. The recommended level for internal consistency reliability is at least 0.70, while for AVE, it is at least 0.50 [2]. Table 2 shows that the study constructs' reliability and AVE are above the recommended levels.

Table 2: Constructs' Reliability & AVE

Construct	**Total Items**	**Reliability**	**AVE**
Management Support	4	0.926	0.760
System Quality	3	0.924	0.806
Service Quality	5	0.940	0.757
Rewards Policy	2	0.949	0.902
Peers Trustworthiness	4	0.943	0.806
Knowledge Sharing	5	0.876	0.587
Individual Benefits	10	0.936	0.598

Model Evaluation and Hypotheses Testing

With PLS the R-square values are used to evaluate the predictive relevance of a structural model for the dependent latent variable, and the paths coefficients are used to assess the effects of the independent variables. The model hypotheses were tested by T-tests. Bootstrapping technique was utilized with a re-sampling of 200 to test the significance of the PLS estimates of path coefficients. Based on PLS-Graph user's guide, this resample size provides reasonable standard error estimates.

Table 3 shows that R-squares for the dependent variables knowledge sharing process and individual benefits are 0.397 and 0.330, respectively. Thus, knowledge sharing to repository KMS was 39.7%% determined by its predictors (system quality, service quality, management support, rewards policy, and peers trustworthiness), while individual benefits were 33% determined by its predictor (knowledge contribution). Also, the table shows that reward policy (β=0.290; p = 0.1), management support (0.233; 0.1), and system quality (0.224; 0.1) were the only significant factors on knowledge sharing behavior. Service quality and peers trustworthiness were not significant predictors of knowledge sharing behavior. Knowledge sharing to repository KMS was also found to significantly result in individual contribution benefits (0.574; 0.005).

Thus, hypotheses H1 (storage level), H3 (management support), H4 (rewards policy), and H6 (individual benefits) were supported, but hypotheses H2 (service quality), and H5 (peers trustworthiness) were not supported.

Table 3: Model evaluation measures

Construct	Mean	R-Square	Path coefficient (β)	Sig. level (α)
Storage Level	1.88	NA	0.224	0.1
Service Quality	4.25	NA	0.126	NS
Management Support	4.41	NA	0.233	0.1
Peers Trustworthiness	4.61	NA	0.021	NS
Rewards Policy	2.30	NA	0.290	0.1
Knowledge Sharing	2.56	0.397	0.574	0.005
Individual Benefits		0.330	NA	NA

NS = Not Significant;; NA = Not Applicable

6. Conclusion

Overview

This study mainly aimed to investigate the factors that determine the individual's knowledge sharing behavior to a repository KMS. It also evaluated the individual benefits that gained from such behavior. A questionnaire with quantitative indicators was utilized for this investigation. PLS methodology was utilized for the quantitative analysis. The study was conducted in Oman, a developing country. KMS offers developing countries an effective and efficient way to build their human resources and consequently prepare the country for a knowledge-based economy. However, knowledge in Arabian culture is considered private and power, hence promoting a knowledge behavior is even more challenging in Arabian countries. This investigation provided practitioners and researchers some insights on the motivators of knowledge sharing behavior and consequently the success of KMS deployment.

The results of this study showed that the factors that significantly affected knowledge sharing were, in order of their contributions, rewards policy (β=0.290; p = 0.1), management support (0.233; 0.1), and system quality (0.224; 0.1). Service quality (β = 0.126), and peers trustworthiness (0.021) were found to be insignificant. This indicates that the most important issue for sharing knowledge to the repository KMS is the rewards policy. Individuals freely spend their time and effort to share their knowledge (power) with others through the KMS without any essential value added to their own job. Thus, rewards policy is critical in motivating them along with the support of management in terms of encouragement and time giving. It seems that once managers support and rewards the knowledge contributors, peers trustworthiness is not a significant factor. Besides, the development of a high quality of the system storage function is crucial for the knowledge contributors to have an easy and quick sharing process,

This study also empirically detected significant individual benefits resulting from sharing knowledge to a repository KMS. A higher knowledge sharing to the KMS results in higher intangible benefits, sharing-performance, and tangible benefits. Sharing knowledge to the KMS improves an individual's reputation, work status and performance, and experience of sharing knowledge.

This study showed that the development of a knowledge-oriented culture is very significant on the success of KMS use consistent with a number of studies in developing countries (e.g. [2, 3, 31]). The significance of management support on the success of IT deployment was highly supported by several studies from Arab countries (such as [1, 2, 20]). The significance of management support is also consistent to an earlier study conducted by the researchers on the KMS success factors in Omani organizations from the IT managers' perspective. However, this study showed that individual knowledge contributors consider rewards policy as a valuable strategy unlike the IT managers in the earlier study. The significance of rewards policy is also consistent with a study conducted in Malaysian context [34].

Limitations and Future Research

This study had some limitations. First this study was limited only to the repository model of KMS. Second, the study was investigated in one company and in one country with a specific KMS. The benefit of focusing on one organization and one KMS was control. Of course, this limited its generalization. Thus future research may carry out this investigation in a network model of KMS. Second, the study might be investigated in different organizations and in different culture and with different systems to generalize the results. Third, future research may also refine these study measurements and develop new one to strengthen the findings. Fourth, future researchers may also conduct this investigation through longitudinal study to understand whether knowledge sharing behavior is improved by the independent variables suggested in this study and/or by the benefits achieved through knowledge sharing.

Implications for Practice

This study offered several implications for research and practice. For practitioners, this study indicated that knowledge management is a socio-technical process; thus, the development of a knowledge-based culture and high quality system functionality are essential for the success of knowledge sharing process and consequently the organizational KMS. Management support is crucial to clarify the objective of KMS, encourage end users, and most importantly provide individuals the sufficient time to create and codify knowledge. The development of a rewards policy might be vital for knowledge sharing. The study also showed that deploying KMS provides knowledge contributors some individual benefits, which consequently may lead to organizational benefits.

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8. References

[1].Ahmed , A. and Hegazy, K. "Knowledge Management Perception in the Middle Eastern Region: An empirical investigation within Egypt context, " *International Journal of Management Practice* (2:2), 2006, p. 109.

[2].Al-Busaidi, K.A. and Olfman, L. "An Investigation of the Determinants of Knowledge Management Systems Success in Omani Organizations, " *Journal of Global Information Technology Management* (8:3), 2005, pp. 6-27.

[3].Al-Athari, A., and Zairi, M. "Building Benchmarking Competence Through Knowledge Management Capability: An empirical study of the Kuwaiti context, " *Benchmarking: An International Journal* (8:1), 2001. pp. 70-80.

[4].Alavi, M., and Leidner, D. "Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues, " *MIS Quarterly* (25:1), 2001, pp.107-136.

[5].Ali, A. J. "Management Theory in a Transitional Society: The Arab's experience, " *International Studies of Management and Organization* (20:3), 1990, pp. 7-35.

[6].Becerra-Fernandez, I.; Gonzalez, A and Sabherwal, R.. *Knowledge Management 1/e,* Pearson Education Inc , New Jersey, NJ,2004.

[7].Chin, W.W. "The Partial Least Square Approach to Structural Equation Modeling". In G.A Marcoulides (Ed), *Modern Methods for Business Research*. Mahawah, London, Lawrence Erlbaum Associates, 1998, pp. 295-336.

[8].Davenport, T.H., and Prusak, L. *Working Knowledge*. Harvard Business School Press ,Boston, MA, 1998.

[9].DeLone, W., and McLean, E. "Information Systems Success Revisited, " *Proceedings of the 35th Hawaii International Conference on System Sciences*, 2002.

[10]. De Long, D.W., and Fahey, L. "Diagnosing Cultural Barriers to Knowledge Management, " *The Academy of Management Executive* (14:4), 2000, pp.113-127.

[11]. Gold, A. H., Malhotra, A., and Segars, A. H. "Knowledge Management: An organizational capabilities perspective, " Journal of Management Information Systems (18:1), 2001, p. 185.

[12]. Goodman, P. S., and Darr, E. D. "Computer-Aided Systems And Communities: Mechanisms for organizational learning in distributed environment, " *MIS Quarterly* (22;4), 1998. pp. 417-440.

[13]. Hair, J., Anderson, R., Tatham, R., and Black W. *Multivariate Data Analysis*, Prentice Hall, Upper Saddle River, NJ, 1998.

[14]. Hendriks, P. "Why Share Knowledge? The influence of ICT on the motivation for knowledge sharing," Knowledge and Process Management(6:2), 1999, pp.91-100.

[15]. Husted, K. and Michailova, S. "Knowledge Sharing in Russian Companies with Western Participation, " *Management International* (6:2), 2002, P. 17.

[16]. Igbaria, M. End-User Computing Effectiveness: A structural equation model, " *Omega* (18:6), 1990, p.637.

[17]. Jennex, M. and Olfman, L. "Organizational Memory/Knowledge Effects on Productivity", *A Longitudinal Study. Proceedings of the 35th Hawaii International Conference on System Sciences*, 2002.

[18]. Kankanhalli, A. and Tan, B. "A Review of Metrics for Knowledge Management Systems and Knowledge Management Initiatives, " *Proceedings of the 37th Hawaii International Conference on System Sciences*, 2004.

[19]. Kettinger, W. J. and Lee, C. C. "Perceived Service Quality and User Satisfaction with the Information Services Function. Decision Sciences, " (25:5/6), 1994, pp. 737-765.

[20]. Khalfan, A., and Alshawaf, A. "Adoption and Implementation Problems of E-Banking: A study of the managerial perspective of the banking industry in Oman". *Journal of Global Information Technology Management* (7:1), 2004, pp. 47-64

[21]. Krogh, G. "Care in Knowledge Creation, " *California Management Review* (40:3), 1998 p. 133.

[22]. Lee, H. and Choi, B. "Knowledge Management Enablers, Processes, and Organizational Performance: An integrative view and empirical examination, " Journal of Management Information Systems (20:1), 2003. pp. 179–228.

[23]. Marks, P. *Sharing Knowledge Through a Knowledge Management System: The relative effectiveness of formal control and organizational support.* PhD Dissertation, University of Pittsburgh, Pittsburgh, PA, 2001.

[24]. Maier, R. *Knowledge Management Systems: Information and communication technologies for knowledge management,* Springer, Berlin, Germany, 2002.

[25]. Miles, M. B., and Huberman, A. M. *Qualitative Data Analysis - An Expanded Source Book*. (2nd ed.), Thousand Oaks, CA 1994.

[26]. Moore, G., and Benbasat, I. "Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation, " *Information Systems Research* (2), 1991, pp. 192-222.

[27]. O'Dell, C., and Grayson, C.J. "If Only We Knew What We Know: Identification and transfer of internal best practices, " *California Management Review* (40:3), 1998, pp.14-37.

[28]. Parasuraman, A., Zeithaml, A. V. and Berry, L. L. "A Conceptual Model of Service Quality and its Implications for Future, " *Research. Journal of Marketing* (49:4), 1985, pp.41-50.

[29]. Schein, E. *Organizational Culture and Leadership*, Jossey-Bass, San Francisco, CA, 1985.

[30]. Scholl, W., Konig, C., Meyer, B., and Heisig, p. "The Future of Knowledge Management: An international Delphi study, " *Journal of Knowledge Management* (8:2), 2004, pp. 19-35.

[31]. Syed-Ikhsan, S. O., and Rowland, F. "Knowledge Management in a Public Organization: A study of the relationship between organizational elements and the performance of knowledge transfer, " *Journal of Knowledge Management* (8:2), 2004, pp. 95-111.

[32]. Turban, E., McLean, E., and Whetherbe, J. *Information Technology for Management: Making connections for strategic advantage*, John Wiley and Sons Inc, New York, 2001.

[33]. World Bank. *Technical Cooperation Program Brief on GCC*, 2003. http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/MENAEXT/BAHRAINEXTN/0,,menuPK:312668~pagePK:141132~piPK:141107~theSitePK:312658,00.html.

[34]. Yahya, S., and Goh, W. "Managing Human Resources Toward Achieving Knowledge Management, " Journal of Knowledge Management (6:5), 2002, pp. 457-468.

[35]. Zucker, L.G. "Production of Trust: Institutional sources of economic structures",. In B.M. Shaw andL.E. Cummings (eds.), *Research in Organizational Behavior* (8), 1986. pp. 53-111.