Tacit Knowledge Sharing in Health Industry: Influences of, Personal, Organizational and Social Factors

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Abstract

Purpose - objective of this research is to investigate individual, organizational and environmental factors influence tacit knowledge sharing among healthcare professionals. The transmission of Tacit Knowledge is crucial for organizations to ensure that TK will be passed throughout organization, rather than stored in single employee.

Research design, data, and methodology - In this study investigate organizational, individual and environmental factors that influence on TK sharing. To test hypothesizes, the survey method was chosen. Sample size was 100 but 74% of questioners returned.

Results - The main findings of this research are related to influence of personal, social cultural and behavioral factors on tacit knowledge sharing. According to extracted data all factors have influence on tacit knowledge sharing except Emotional stability that was found to be negatively related to tacit knowledge sharing. That may means anxiety and stress level of workplace applies negative enhance on tacit knowledge sharing. And finally results show that social environment, team oriented culture and organizational commitment have strongest influences on tacit knowledge sharing.

Conclusion - the findings of this study shows that personal, social cultural and behavioral factors influence on tacit knowledge sharing. And also indicates that, social and organizational factors enhance strongly on tacit knowledge sharing.

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1. Introduction

These days, organizations associate knowledge to survive in quick changing environment (Wolfe and Loraas, 2008). knowledge management is critical to achieve organizational effectiveness(Anand et al., 1998). According to studies in this field, knowledge is foundation of competitive advantage, because that is driver of organizational value (Gold et al., 2001; Bock et al., 2005, Hojabri et al., 2012). Moreover, knowledge management and organizational learning enhance compatibility and adoption of Firm in fastchanging environment (Chen and Edigington, 2005; Hojabri et al., 2012; Borousan et al., 2012).Knowledge management is a processes that develop ,stores and publishing knowledge to have better performance (Hojabri et al., 2012; Borousan et al., 2012).

Knowledge can be characterized as explicit and tacit (Nonaka, 1994; Borousan et al., 2012). Explicit knowledge codify and transfer easily, but whereas tacit knowledge is hard to exchange (Nonaka, 1994; Small and Sage, 2006; Reychav and Weisberg, 2009; Borousan et al.; Hojabri et al., 2012).According to studies, tacit knowledge is critical for organizational performance improvement (Small and Sage, 2006; Reychav and Weisberg, 2009). In term of tacit knowledge extraction may be particularly difficult, if individuals perceive that there are potential risks of losing competitive advantage (Stenmark, 2001).

Thus, healthcare professionals have central role in providing services in health industry. In fact human plays critical roles in health industry. Nevertheless, Healthcare professionals are facing specific conflicts due to the nature of the Health Field that including, disequilibrium between personal lives and work lives. This issue occurred because healthcare professionals are responsible for people lives. They are exposed to extensive high risk patients, golden time , and other pressures. In addition, cost of losinga healthcare professional is high it usually involves the loss of tacit knowledge.

Therefore, it is significant to understand which factors enhance sharing of tacit knowledge among healthcare professionals. A few studies focus on tacit knowledge and factors that enhance on sharing. (Nonaka, 1994; Wolfe and Loraas, 2008). Cabrera et al. (2006) argue that, a psychological perspective by investigating how personality

traits, reward systems, and autonomy affect people's to sharing knowledge. There are studies that identified social network (Hansen, 1999; Reagans and McEvily, 2003), Organizational culture (Dyer and Nobeoka, 2000; Stoddart, 2007; Jalal et al., 2010), Personality (Cho et al., 2007) and organizational commitment (Hooff & Ridder, 2004) as influencing factors on knowledge sharing.

Base on literature this study explorer link between organizational commitment , organizational culture, personality and social environment and sharing of TK. according to studies ,organizational commitment is motivational factor on knowledge sharing. Hall (2001), argue that if people convinced that sharing their knowledge is useful ,they are more willing to share their knowledge (Hall, 2001). An individual that is committed to organization ,that means has more trust to management and colleagues, is more likely to be willing to share their knowledge to others (Jarvenpaa and Staples, 2001). Organizational culture determines that employees knowledge is one of firm assets or not and how employee is expected to engage in tacit knowledge sharing across workplace.

Personality traits have also direct impact on sharing tacit knowledge (Locke and Latham, 2004; Cabrera et al., 2006). Social environment will influence to engage tacit knowledge sharing behaviors. Specifically, the strength of social ties and the level of competitiveness can result in reciprocity and interpersonal trust, which should affect employees' willingness to share their expertise (Nonaka, 1994).

This study aim to investigate how organizational commitment, organizational culture, personality traits, and social environment influence the individual decisions of healthcare professionals which regards to engaging in tacit knowledge-sharing behavior.

2. Literature review

The transmission of TK (Tacit Knowledge) is crucial for organizations to ensure that TK will be passed throughout organization, rather than stored in single employee. So, It is clear that will be necessary to identify and understand influentia lfactors on sharing tacit knowledge among professionals in K_oriented organizations (Renata, 2012). Small number of studies focus on tacit knowledge (Nonaka,1994; Wolf and Loraas, 2008; Renata, 2012). Lin in 2007 assessed the phenomena from ethical perspective (Lin, 2007). In this research investigated influence of distributive and procedural justice on tacit knowledge sharing, he find out that instrumental ties , expressive ties and distributive justice affect on tacit knowledge via trust between co-workers. In another study Cabrera and partners presented a psychologicalper spective to illustrate how personality traits, reward system and autonomy influence employees to participate in voluntary knowledge sharing. They find out that perceived support from colleagues and supervisors, openness to experience and self efficacy had strong impact on knowledge sharing than autonomy and reward system. (Cabrera et al., 2006)

2.1. Tacit Knowledge (TK)

TK is a kind of knowledge that cannot be codified and base on predominantly on individual experiences (Borousan et al., 2012). TK can only be transferred by training from personal experience (Alwis and Hartmann, 2008; Borousan et al., 2012). Also TK called a knowledge that is embedded in culture and it is difficult to share with different culture (Borousan et al., 2012). In other words "we know more than we can tell"(Polanyi ,1997). In organizational context, that is composed of technical skills and also cognitive dimensions including personal perspectives, beliefs and mental models (Small and Sage, 2006). Among healthcare professionals, decision to sharing TK relies heaviliy on individual experience and cognition. Cognitive components are related to individual's attitude and perceptions such as employee's beliefs, viewpoints and paradigms.

Block et al in 2005 examined role of extrinsic motivators, social-psychological forces and organization behaviors in sharing knowledge (Block et al., 2005). They suggested that organizational climate is critical determinant in sharing knowledge .intrestingly economical motivators were not influence on sharing knowledge (Borges, 2012). Small and Sage (2006) proposed that good social relationships and a favourable organizational culture might result in knowledge-sharing behaviors.

2.2. Organizational Commitment (OC)

Mowday et al. (1982, 1979) and Steers (1977) laid the foundations for extensive body of research into organizational commitment. Mowday et al defined organization commitment as "relative strength of an individual's identification with, an involvement in a particular organization" (Mowday, 1979). Meyer and Allen categorized organizational commitment to: Affective commitment, that related to identification and involvement with organization , this contains felling emotional attachment to the organization .that means employee has affective commitment leads to felling of wanting to continue employment in organization.(Hooff & Ridder, 2004).

Continuance commitment, is related to the cost of leaving and (Kanter, 1968; Hooff & Ridder, 2004) and also profit associated with continue participate in organization.

Normative commitment, related to feeling of obligations toward the organization and a feeling that one ought to continue employment in organization (Hooff & Ridder, 2004).

In term of relationship between organizational commitment and knowledge sharing, there are variety of studies (Hislop, 2002; Kelloway and Barling, 2000; Scarbrough, 1999; Smith and Mckeen, 2002; Hooff & Ridder, 2004). they proved that there are positive relationship between organization commitment and knowledge sharing. These literature leads us to expect that affective commitment to the organization positively influences that extent to employees sharer their tacit knowledge.

H1: there are positive relationship between organizational commitment and tacit knowledge sharing.

2.3. Organizational culture

Term of culture in organization, borrows from Anthropology and sociology and this make diversity in defining and measurement (Smircich, 1983). First definition related to Hofftede and Mcrae, they believed that culture is " the collective programming of the mind that distinguishes one group or category of people from another " (Hosftede and McCrae, 2004). or Schein in 1986 define culture as "pattern of basic assumptions that the group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, and that has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.". most of researchers believe that culture is collective, invisible manifested trough behaviors of community (Borges, 2012). in organizational environment ,culture can be determined that includes mission , behavioral norms, values, philosophies and unwritten rules (Kilmann et al., 1985; Jermier et al., 1991). It dictates the pattern of behavio rthat is expected and accepted from employees. Mild or weak cultures simply suggest the way members must behave, whereas strong cultures exert pressure on each person's behavior (Kilmann et al., 1985).

Organization culture has influences on knowledge sharing (Small and Sage, 2006; Suppiah and Sandhu, 2011). Organizations that enforce values toward employee engagement in knowledge sharing are more likely to achieve higher level of knowledge sharing success (Jalal et al., 2010). Organizational cultures have variety dimensions that related to knowledge sharing. This relationship may be positive or negative (Suppiah and Sandhu, 2011). According to studies in this field knowledge sharing affected by three cultural values (Jalal et al., 2010).

1. collaboration among employees and collaboration in organizational activities;
2. recognition of employees for sharing knowledge; and
3. Employeetrust in team-work and confidence in the team's abilities.

The impacts of collaboration and team oriented culture on knowledge sharing was found to be significant (Stoddart, 2007) , the author points out sense of community plays critical role to implement more collaborative and team oriented cultures and also help to encourage knowledge sharing (Stoddart, 2007). According to mentioned studies, authors expect collaborative and team oriented culture to enhance knowledge sharing (Borges, 2012).

Regarding to tacit knowledge components, organizational supportive values, collaboration and team oriented behaviors encourage employees to sharing Tacit knowledge. Hence, team orientation and supportive cultures will positively and significantly enhance sharing tacit knowledge among Healthcare Professionals. So following hypothesizes proposed:

H2a. Team Oriented culture is positively and significantly related to Tacit Knowledge Sharing between healthcare professionals.

H2b. supportive culture is positively and significantly related to Tacit Knowledge Sharing between healthcare professionals.

2.4. Personality Traits

A personality trait can enhance on enduring individual tendency to any reaction in a specific way (Tosi and Mero, 2003). traits classified to five dimensions including: extraversion, emotional stability, agreeableness, conscientiousness, and openness to experience (Costa and McCrae, 1991). Extraversion is the tendency to be sociable, energetic, and forceful. Emotional stability is the tendency not to be neurotic, emotional, tense, or insecure; to have low anxiety levels, to not be easily upset or suspicious, and to have high self-confidence. The opposite is the tendency to be neurotic, highly emotional, tense, insecure, depressed, easily upset, and suspicious, with low self-confidence. Agreeableness is the tendency to be tolerant, trusting, generous, warm, kind, and good-natured, and not likely to be aggressive, rude, or thoughtless. Conscientiousness is the tendency to beresponsible, dependable, persistent, punctual, hardworking, and work-oriented. Finally, openness to experience is the tendency to be imaginative, curious, cultured, broad-minded, and self-sufficient (Borges, 2013).

Personality traits are driver for human behaviors (Latham and Pinder, 2005).studies showed that responsible employees are tend to work with higher level of motivation (Judge and Ilies, 2002; Barrick et al., 2005; Shaffer et al., 2006; Borges, 2013). In five mentioned dimensions of personality, conscientiousness has stronger relationship with knowledge sharing (Cabrera et al., 2006; Cho et al., 2007). according literature (Borges, 2013). conscientiousness and emotional stability present the most robust and consistent correlationswith positive job attitudes (Judge and Ilies, 2002; Barrick et al., 2005 Borges, 2013).

Third variable in this section named extraverted that define that extraverted employees are likely to disseminate tacit knowledge due to their social characteristics (Borges, 2013). Therefore, authors expect conscientious and emotionally stable employees to engage in tacit knowledge-sharing behavior (Borges, 2013). The following hypotheses are stated:

H3a. A high level of conscientiousness is positively and significantly related to tacit knowledge sharing between Healthcare professionals.

H3b. A high level of emotional stability is positively and significantly related to tacit knowledge sharing between healthcare professionals.

H3c. A high level of extraversion is positively and significantly related to tacit knowledge sharing between healthcare professionals.

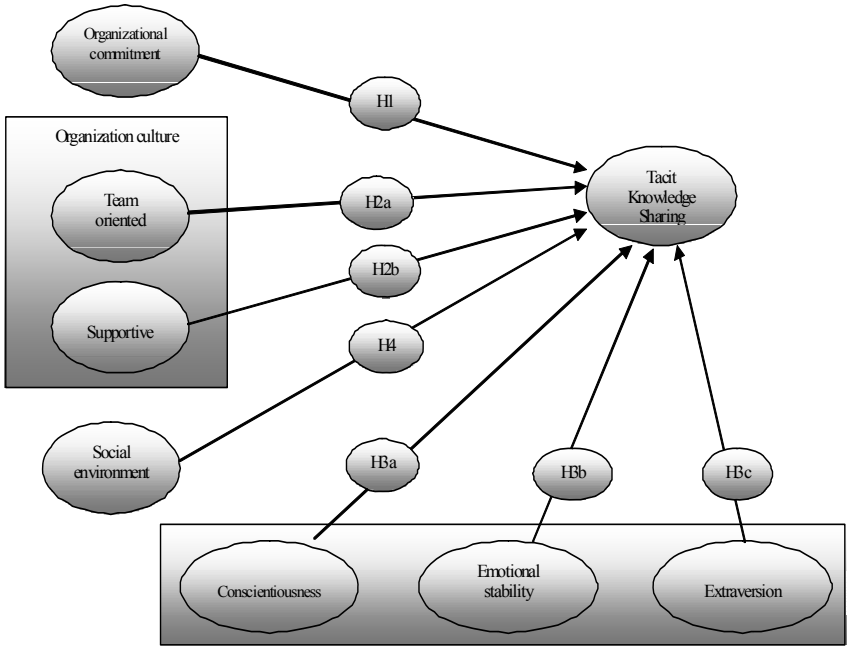
2.5. Social environment

Social environments refer to social relationship between people (Boissevan, 1974). in organization social relationship are important for administrators, because employees may exert pressure on colleague's behavior (Borges, 2013). According to literatures social environments are related to culture (Borges, 2013). Social environment and informal interpersonal network plays a critical role in the knowledge sharing process (Reagans and McEvily, 2003). On the other hand positive

points of interactions between employees is expected influence knowledge sharing behavior (Borges, 2013). According to studies in this field social networks ties are positively related tto knowledge sharing (Chen et al., 2009), The following hypothesis is therefore presented:

H4a. Strong network ties are positively and significantly associated with tacit knowledge sharing between healthcare professionals.

Following figure shows the relationship between organizational commitment, culture, personality traits, and social environment and tacit knowledge sharing, along with the proposed hypotheses. Research frame work support The objective of this study that is investigate how organizational commitment, organizational culture, personality traits, and social environment influence the individual decisions of healthcare professionals which regards to engaging in tacit knowledge-sharing behavior.



<Figure 1> Research Frameork

Differentiation of this research is, considering organizational commitment as organizational factor on tacit knowledge sharing. In Previous studies didn't consider organizational commitment as significant variable that authors consider this variable to the research. Renata Borges in 2012 mentioned that organizational commitment is one of the significant factors that should be considered in future studies.

3. Methodology

3.1. Instrument development

We select survey method to test framework and questionnaire was developed to collect data based on previous studies. First section related to demographic information, second part measured tacit knowledge sharing between healthcare professionals. These items utilized in several studies (Bock and Kim, 2002; Daft, 2001; Lin, 2007; Borges, 2013). Daft and Lin reported Cronbach's αof 0.82 for knowledge-sharing behavior measure. After examination of sharing tacit knowledge sharing, we investigate organizational commitment, organizational culture, social network and personal factors. All items in the questionnaire were measured using a five-point Likert scale, which varied from "strongly agree" to "strongly disagree" to assess tacit knowledge-sharing behavior and social network ties; "very inaccurate" to "very accurate" to assess personality traits; and "not at all" to "very much" to assess organizational culture.

3.2. Sample

100 questionnaires distributed and 72 usable questionnaires returned and all of respondents were healthcare professionals. weutilized the SPSS Statistics 18 software to assess the descriptive statistics of the demographic data.

3.3. Analysis method

In this research, authors choose partial least squares method to test relationship between variables. This methodology is best pattern for finding relationship between variables when sample size is small (Chin, 1998). Additionally this method is not necessary to use normal distribution of variables and also it is suitable for highly complex predictive models (Lohmöller, 1984).

4. Measurement

The measurement framework was tested based on internal consistency and convergent validity. Followingt able shows the PLS standardized loadings, AVE, and Cronbach's α-values for the constructs. According to loading factor that extracted from variables and amount of these loading factors that are greater than ±0.50 we can conclude that, generally considered necessary for significance. On the other hand, all contract's AVE are greater than 0.69 and this amount is greater than 0.50 and according to research references in the convergent validity, the extent of specific construct coverage a high proportion of variance in common, is adequate when that construct has greater AVE than 0.50. for testing reliability of degree of consistency between variables , we use Cronbach's α. all constructs scores aregreater than 0.92 and this show a good internal consistency.

<Table 1> Demographic data

Characteristics		N	%
Gender			
	male	40	55.6%
	female	32	44.4%
Age			
	25 years and less	2	2.8%
	26-30 years	17	23.6%
	31-35 years	26	36.1%
	36-40 years	24	33.3%
	41 and greater	3	4.2%
Marital Status			
	single	8	11.1%
	married	64	88.9%
Educational level			
	High school	0	0.0%
	B.s	32	44.4%
	M.s	14	19.4%
	PhD	26	36.1%
Experience			
	5 years and less	4	5.6%
	6-10 years	22	30.6%
	11-15 years	31	43.1%
	16 years and above	15	20.8%
Position			
	sub specialist	2	2.8%
	specialist	4	5.6%
	general Doctor	18	25.0%
	nursing supervisor	14	19.4%
	nurse	26	36.1%
	manager	8	11.1%

<Table 2> Factors measurements

	factors	contracts	indicators	loadings	t-values	AVE	Chronbach's α
1	organizational Commitment	commitment	OC1	0.85	29.5	0.82	0.92
			OC2	0.89	37.83		
			OC3	0.91	30.44		
			OC4	0.89	32.04		
			OC5	0.85	31.63		
2	personality Traits	Conscientiousness	con1	0.92	21.5	0.69	0.95
			con2	0.95	21		
			con3	0.9	21.5		
			con4	0.95	21		
			con5	0.9	24.5		
			con6	0.95	22.8		
			con7	0.7	12.7		
			con8	0.7	14		
			con9	0.65	16.3		
			con10	0.6	14.5		
		Emotional stability	ES1	0.62	13.3	0.73	0.96
			ES2	0.8	19.54		
			ES3	0.85	22.72		
			ES4	0.95	31		
			ES5	0.85	20.5		
			ES6	0.85	20.5		
			ES7	0.95	28		
			ES8	0.95	26.5		
			ES9	0.95	27.5		
			ES10	0.9	28		
		Extraversion	EX1	0.85	21	0.69	0.93
			EX2	0.95	18		
			EX3	0.9	19.5		
			EX4	0.9	23		
			EX5	0.85	22		
			EX6	0.75	23		
			EX7	0.75	23		
			EX8	0.8	22.5		
			EX9	0.75	24		
			EX10	0.8	24		
3	organizational culture	Supportive culture	SP1	0.95	31.5	0.83	0.95
			SP2	0.95	32		
			SP3	0.9	30.5		
			SP4	0.9	38		
			SP5	0.85	29.5		
		team oriented culture	TO1	0.9	19.5	0.77	0.96
			TO2	0.9	29.7		
			TO3	0.9	34.5		
			TO4	0.85	19.5		
			TO5	0.85	23.3		
			TO6	0.8	23.4		
			TO7	0.9	22		
			TO8	0.9	32		
			TO9	0.9	26.5		
4	social factor	Social environment	NT1	0.9	29	0.81	0.94
			NT2	0.9	32		
			NT3	0.9	38.5		
			NT4	0.85	33		
			NT5	0.9	22.5		
5	Tacit Knowledge	Tacit knowledge sharing	TK1	0.95	91.2	0.94	0.98
			TK2	0.95	67.6		
			TK3	0.95	80		
			TK4	0.95	58		

<Table 3> Results

Constructs	λ	p	Results
Organization Commitment	0.43	< 0.01	supported
Team Oriented Culture	0.5	< 0.01	supported
Supportive culture	0.4	< 0.05	supported
Conscientiousness	0.4	< 0.01	supported
Emotional stability	-0.22	< 0.05	partial supported
Extraversion	0.33	< 0.01	supported
Social Environment	0.54	< 0.01	supported

In this research, according extracted data most of hypothesizes are supported except emotional stability that applies negative impact on tacit knowledge sharing .following tables shows constructs and results.

Regarding to research results, Hypothesis 1, 2a, 2b, 4, 3a, 3c were supported and emotional stability partial supported .this shows that factor applies negative influence on tacit knowledge sharing .so we can say that anxiety and stress level can influence on tacit knowledge sharing in negative way and may make a barrier to sharing knowledge in healthcare professionals. Social environment were positively and significantly associated with tacit knowledge sharing between healthcare professionals. As mentioned differentiation of this study is, including organizational commitment as independent variable into the research frame work. Differentiation of this research with other studies, is, impact of emotional stability on tacit knowledge sharing. In previous study emotional stability has no relation on tacit knowledge sharing. But this study proves that emotional stability can effect on knowledge sharing. In this section of research, authors asked respondents from emotional issues such as anxiety and stress level or mood. According to results, any emotional instability factors such as stress, anxiety and. can applies negative influence on tacit knowledge sharing among healthcare professionals.

5. Conclusions

The main findings of this research are related to influence of personal, social cultural and behavioral factors on tacit knowledge sharing. According to extracted data all factors have influence on tacit knowledge sharing except Emotional stability that was found to be negatively related to tacit knowledge sharing. That may means anxiety and stress level of workplace applies negative enhance on tacit knowledge sharing. And finally results show that social environment, team oriented culture and organizational commitment have strongest influences on tacit knowledge sharing.

One feature of this study is, focus on role of healthcare professionals in health industry and managing knowledge through organization. Uniqueness of healthindustry is appropriate for investigating on tacit knowledge sharing; because Health professionals are constantly exposed to new knowledge for perform effective and efficient. Other research supports assumptions that are combination of personal characteristics and also workplace environment that promotes professionals knowledge sharing (Basselier et al., 2001; Glen, 2003; Janz and Prasarnphanich, 2003; Messersmith, 2007; Niederman et al., 2007).

In fact, the main contribution of this study is empirical evidence that provides on how organization's management can create likelihood environment that employees knowledge will be passed to other employees. Because results show that, environmental factors have stronger influences than personal factors. This approach can reduce loss of tacit knowledge in turnover process. And also results implied that employees tend to share their tacit knowledge when they feel they are in protected, supportive and team-oriented environment. One of significant contribution of this study, is, examination of influence of organizational commitment on tacit knowledge sharing that gather with personal, organizational and social factors. Just mentioned, the research framework, with presented structure is unique in the health sector.

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References

Anand, V., Manz, C.C. & Glick, W.H. (1998), "An organizational memory approach to information management", *Academy of Management Review,* 23(4), 796-809.

Barrick, M.R., Parks, L. & Mount, M.K. (2005), "Self-monitoring as a moderator of the relationships between personality traits and performance", *Personnel Psychology,* 58,745-67.

Basselier, G., Reich, B.H. & Benbasat, I. (2001), "Information technology competence of business managers: a definition and research model", *Journal of Management Information Systems,* 17(4), 59-82.

Bock, G.W. & Kim, Y.G. (2002), "Breaking the myths of rewards: an exploratory study of attitudes about knowledge sharing", *Information Resources Management Journal,* 15, 14-21.

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

Borges, Renata (2013) "Tacit knowledge sharing between IT workers: The role of organizational culture, personality, and social environment", *Management Research Review,* 36(1), 89-108.

Borges, Renata Simoes Guimaraes E.(2012), *Public Versus Private: An Empirical Investigation of Work Satisfaction and Organizational Commitment,* Charleston: BiblioLabsII.

Borousan, E., Hajiabolhasani, A. and Hojabri, R. (2012) "Evaluating factors that cause problem in implementation of knowledge management in Iran's oil and gas industry *"African Journal of Business Management,* 6 (34), 9589-9596,

Cabrera, A., Collins, W.C. & Salgado, J.F. (2006), "Determinants of individual engagement in knowledge sharing", *The International Journal of Human Resources Management,* 17(2), 245-64.

Cao,Yong & Xiang, Yang (2012), "The impact of knowledge governance on knowledge sharing", *Management Decision,* 50(4), 591-610

Casimir, Gian, Lee, Karen & Loon, Mark (2012), "Knowledge sharing: influences of trust, commitment and cost", *Journal of Knowledge Management,* 16(5), 740-753.

Chen, A.N.K. & Edigington, T.M. (2005), "Assessing value in organizational knowledge creation: consideration for knowledge workers", *MIS Quarterly,* 29(2), 179-309.

Chen, I.Y.L., Chen, N.S. & Kin, shuk (2009), "Examining the factors influencing participants' knowledge sharing behavior in virtual learning communities", *Educational Technology & Society,* 12(1), 134-48.

Chin, W.W. (1998), "The partial least squares approach to structural equation modeling", in Marcoulides, G.A., *Modern Methods for Business Research,* Lawrence, Eds, NJ: Erlbaum, Mahwah, 295-336.

Cho, N., Li, G.Z. & Su, C.J. (2007), "Empirical study on the effect of individual factors in knowledge sharing by knowledge type", *Journal of Global Business and Technology,* 3(2),1-16.

Dodgson, S., Brocklebank, N., Wharton, D. and Beaumont, I. (2011), ‘‘Future of work enquiry:

developing organisations which focus on personal value’’, *E-Organizations and People,* 18(4), 57-64.

Goddard, J., Birkinshaw, J. and Eccles, T. (2012), ‘‘Uncommon sense: how to turn distinctive beliefs into action’’, *MIT Sloan Management Review,* 53(3), 33-39.

Hojabri, R, Borousan, E. and Manafi, M. (2012) "Impact of using telemedicine on knowledge management in healthcare organizations: A case study *"African Journal of Business Management,* 6 (4), 1604-1613

Hooff, Bart van den & Ridder, Jan A. de (2004), "Knowledge sharing in context: the influence of organizational commitment, communication climate and CMC use on knowledge sharing", *Journal of Knowledge Management,* 8(6), 117-130.

Jalal, H.A., Toulson, P. & Tweed, D. (2010), "Organisational cultural values for successful knowledge sharing: the case of Malaysia", *Proceedings of the International Conference on Intellectual Capital, Knowledge Management, & Organizational Learning,* The Hong Kong Polytechnic University, Hong Kong, 547-554.

Kamasak, Rifat & Bulutlar, Füsun (2010),"The influence of knowledge sharing on innovation", *European Business Review,* 22(3), 306-317.

Lin, Hsiu-Fen (2007), "Knowledge sharing and firm innovation capability: an empirical study", *International Journal of Manpower,* 28(3), 315-332.

Locke, E.A. & Latham, G.P. (2004), "What should we do about motivation theory? Six recommendations for the twenty-first century", *Academy of Management Review,* 29, 388-403.

Nonaka, I. (1994), "A dynamic theory of organizational knowledge creation", *Organization Science,* 5(1), 14-37.

Nelson, R.E. & Mathews, K.M. (1991), "Network characteristics of high-performing organizations", *The Journal of Business Communication,* 28(4), 367-386.

Robert, Charles Abiodun (2009),"Annotation for knowledge sharing in a collaborative environment", *Journal of Knowledge Management,* 13(1), 111-119.

Saenz, Josune, Aramburu, Nekane & Blanco, Carlos (2012),"Knowledge sharing and innovation in Spanish and Colombian high-tech firms", *Journal of Knowledge Management,* 16(6). (Date online 19/9/2012)

Sinha, N., Kakkar, K. and Gupta, V. (2012), ‘‘Uncovering the secrets of the 21st century organization’’, *Global Business and Organizational Excellence,* 31(2), 49-56.

Tohidinia, Zahra & Mosakhani, Mohammad (2010), Knowledge sharing behaviour and its predictors", *Industrial Management & Data Systems,* 110(4), 611-631.

Vuori,Vilma & Okkonen, Jussi (2012),"Knowledge sharing motivational factors of using an intra-organizational social media platform", *Journal of Knowledge Management,* 16 (4), 592-603.