Knowledge Sharing Practices In Malaysian MSC Status Companies

Chong Chin Wei[1], Pei-Lee Teh[2], Arnifa Asmawi[1]

[1]Multimedia University, [2]Monash University, Malaysia

ABSTRACT:

This paper aims to investigate the effect of organizational influences (i.e., organizational culture, co-workers' support, rewards and organizational structure) on organizational practices that stimulate knowledge sharing. This study adopts a quantitative approach. Questionnaires were administered to 250 companies listed in the MSC status Malaysia Company Directory. The data analysis was based on 199 usable responses. Multiple regression analysis was performed to test the hypotheses. Innovation, co-workers support and intrinsic rewards are positively related to knowledge sharing practices. In addition, organizational structure that facilitates the development of new ideas and allows free flow of information is found to be important in promoting knowledge sharing. Extrinsic reward is also found to have an inverse relationship with knowledge sharing. This study provides an empirical evidence for a new model that shows the culture of innovation, management support, organizational structure and reward systems are implicated in individuals' knowledge sharing behaviour.

Keywords: *Knowledge sharing, culture, Co-workers support, Rewards; Organizational structure, Malaysia*

---

1. Introduction

The phenomenal growth of information and communication technologies (ICT) has brought about tremendous changes in the economic landscape. As markets have gone global, business organizations are now facing stiffer competition at the international fronts. Businesses are hard pressed to deliver innovative products and services under the conditions of speedier time-to-market, shorter product lifecycle, rapid changes in work technologies and sophisticated customer demands. In order to sustain competitiveness, it is imperative that organizations to find new strategies to do business. While traditional factors of production such as labor, land and raw materials remain essential, many organizations are now leveraging on their knowledge assets to give them the competitive edge. Knowledge can be in the form of understandings and experiences residing within individuals or it can be embedded in organizational processes and procedures. Knowledge can only be captured and capitalized when the practice of knowledge sharing takes place in the organization.

Knowledge sharing occurs when an individual is willing to assist as well as to learn from others in the development of new competencies (Yang, 2007). It is the voluntary dissemination of acquired skills and experience to the members of the organisation (Davenport, 1997; Ipe, 2003). It is important since an individual's knowledge will not have much impact on the organization unless it is made available to other individuals (Nonaka and Takeuchi, 1995). Thus, knowledge sharing represents a social activity that occurs within a system where knowledge represents a resource that has a value (Davenport and Prusak, 1998; Fulk *et al.*, 2004). By sharing individual's knowledge, competitive capabilities are generated and this leads to firm performance (Ipe, 2003; Kogut & Zander, 1996). Specifically, firms are driven to share knowledge as they believe that this effort will lead to stimulation of productivity, performance, and effectiveness (Brown and Brudney, 2003), improved efficiency, cost reduction, improved quality, and reductions in available resources (McAdam and Reid, 2000).

2. Literature Review

Much existing work has been focused on individual influences such as loss of knowledge power, expertise, tenure, commitment, altruism and reciprocity (Kankanhalli *et al.*, 2005; Wasko and Faraj, 2005). This study is to focus on organizational influences rather than individual influences as it could have an immediate, practical effect on organizational practices that stimulate knowledge sharing. Organizational culture, co-workers' support rewards and organizational structure are the four major areas of organizational influence that are examined in this paper.

2.1. Organizational Culture

Organisational culture, as defined by Deshpande and Webster (1989), is a set of shared values that help organizational members understand organizational functioning and thus guide their thinking and behaviour. Culture is a key element of managing organizational change and renewal (Pettigrew, 1979). It is a sort of glue that bonds the social structure of an organization together. There are many studies examined the effect of organizational culture on knowledge sharing (Chiu *et al.*, 2006; Kankanhalli *et al.*, 2005; Nahapiet and Ghoshal, 1998; Ruppel and Harrington, 2001; Taylor and Wright, 2004; Wasko and Faraj, 2005). Three cultural dimensions, i.e. trust, learning and innovation, are identified in this study as they have attracted the most research attention.

2.1.1. Trust

Trust has been defined as an expectation that arises within a community of regular, honest and cooperative behaviour, based on commonly shared norms, on the part of other members of that community (Fukuyama, 1996). A culture that emphasizes trust has been found to help alleviate the negative effect of perceived costs on sharing knowledge (Kankanhalli *et al.*, 2005) and linked with the implementation of individual knowledge sharing and firm's capability of knowledge exchange and combination (Chiu *et al.*, 2006; Collins and Smith, 2006; Liao, 2006; Ruppel and Harrington, 2001; Wilem and Scarbrough, 2006). Hence, we propose that:

H1: Trust is positively related to knowledge sharing behaviour.

2.1.2. Learning

Lee and Choi (2003) defined learning as the degree of opportunity, variety, satisfaction and encouragement for development in organization. A learning culture opens up formal and informal channels of communication (Bhatt, 2000). Both Taylor and Wright (2004) and Hsu (2006) found that a culture that encouraged new ideas and focused on learning from mistake was positively related to effective knowledge sharing. In addition, Bhatt (2000) relates individual learning capability and organizational learning culture to broadening of knowledge base. Strong learning culture of firms is linked to transfer of knowledge (Murray and Donegan, 2003). However, Lee *et al*. (2006) failed to find a significant relationship between knowledge sharing and a learning orientation. Since most of the studies indicated a positive relationship, we posit that:

H2: Learning is positively related to knowledge sharing behaviour.

2.1.3. Innovation

Research has also shown that organizations with cultures emphasizing innovation are more likely to implement knowledge management system (Ruppel and Harrington, 2001) and facilitate information sharing through subjective norms that encourage sharing (Bock *et al.*, 2005; McKinnon *et al.*, 2003).

H3: Learning is positively related to knowledge sharing behaviour.

2.2. Co-workers Support

Social exchange theory (Blau, 1964) suggests that the exchanges that occur between an employee and his co-workers can influence knowledge sharing behaviour. It is important to reinforce a positive attitude for the initiative within an employee's department or workgroup. Co-workers support and their encouragement of knowledge sharing has been shown to be positively associated with employees' perceptions of a knowledge sharing culture and willingness to share knowledge (Cabrera *et al.*, 2006;

Kulkarni *et al.*, 2006). This is because when employees view their colleagues as partners, rather than competitors, they are more likely to view knowledge sharing positively (De Long and Fahey, 2000). Hence, we propose:

H4: Co-workers support is positively related to knowledge sharing behaviour.

2.3. Rewards

Incentives including recognition and rewards have been recommended as interventions to facilitate knowledge sharing and help build a supportive culture (Hansen *et al.*, 1999; Liebowitz, 2003; Nelson *et al.*, 2006). As rational individuals acting out of self-interest, economic exchange theory posits that employees are concerned about the return on their personal investment in work situations (Constant *et al.*, 1994). There are both extrinsic and intrinsic rewards.

2.3.1. Extrinsic Reward

Extrinsic rewards may be monetary (e.g. a premium for each contribution, salary increases, performance bonuses) or non-monetary awards (e.g. frequent flyer miles, gift certificates, points systems etc.) that have expected financial value. The empirical results of studies examining the effects of extrinsic rewards have been mixed. Organizational rewards such as performance-based pay system, promotion and bonus have been shown to be contributed to knowledge sharing (Cabrera *et al.*, 2006; Kankanhalli *et al.*, 2005; Kim and Lee, 2006; Kulkarni *et al.*, 2006). However, Bock and Kim (2002), Bock *et al.* (2005) and Park and Im (2003) have found that extrinsic rewards may have a negative effect on knowledge sharing. Meanwhile, some studies (Chang *et al.*, 2007; Dixon, 2000; Kwok and Gao, 2005; Lin, 2007) have found no relationship between extrinsic rewards and knowledge sharing. Despite the insignificance, extrinsic rewards are common to be used in organizations to reward employees in knowledge sharing (Hyoung and Moon, 20020; Voelpel *et al.*, 2005; Wright, 1998). Thus, conceptual, empirical and practitioner support for extrinsic rewards reinforces the notion that increasing material benefits for employees will result in more knowledge sharing. This leads to the hypothesis:

H5: Extrinsic reward is positively related to knowledge sharing behaviour.

2.3.2. Intrinsic Reward

Intrinsic rewards refer to non-financial rewards such as recognition, status and praise. It is self-sustaining and involves activities that create a sense of fulfilment or internal satisfaction (Osterloh and Frey, 2000). Some researchers reported that intrinsic rewards may be more effective than extrinsic rewards for promoting knowledge sharing behaviour (O'Dell and Grayson, 1998). Hence, this lead to:

H6: Intrinsic reward is positively related to knowledge sharing behaviour.

2.4. Organizational Structure

An organizational structure composed of departments delimited by function often results in communication silos, which may prohibit the knowledge sharing behaviour (Wang and Noe, 2010). Previous research has shown that knowledge sharing may be facilitated by having a less centralised organisational structure (Kim and Lee, 2006). Knowledge sharing behaviour can be promoted among employees by creating an open workspace that encourages interaction among employees (Jones, 2005) , using of fluid job descriptions and job rotation (Kubo *et al.*, 2001) and encouraging communication across departments and informal meetings (Liebowitz, 2003, Yang and Chen, 2007). Hence, we propose that:

H7: Organizational structure is positively related to knowledge sharing behaviour.

3. Research Methods

3.1. Measures

Scales measures are adapted from several published studies (Behnke, 2010; Mishra, 1996; Schepers and Van Den Berg, 2007). All constructs are measured using a five-point scale where 1="strongly disagree", 2="disagree", 3="neither agree nor disagree", 4="agree", and 5="strongly agree".

3.2. Samples And Procedures

The unit of analysis for this study is organization. These organizations surveyed are companies granted with Multimedia Super Corridor (MSC) status. This study uses the MSC status Malaysia Company Directory (Multimedia Super Corridor, 2010) as population frame. MSC Malaysia was established in 1996 to help to revolutionize the ICT industry in Malaysia and to transform Malaysia into a knowledge economy (Multimedia Super Corridor, 2011). MSC Malaysia provides a conducive environment to transform ICT SMEs into world class companies through several facilities and incentives under the Promotion of Investment Act 1986 (Tan *et al.*, 2009). To date, there are 2520 companies ranging from local to foreign business enterprises have been awarded MSC status by MSC Malaysia (Multimedia Super Corridor, 2011).

A cluster sampling method is used in the present study. Survey questionnaires are distributed to MSC status companies located in Cyberjaya. Cyberjaya is chosen because it is the nucleus of the MSC. It is also known as an intelligent city with information and communication technologies (ICT) and multimedia industries. In fact, the township of Cyberjaya is developed to house the MSC Status companies, serving as a strategic location and a centre to foster the growth of ICT and ICT-enabled industries (Multimedia Super Corridor, 2011).

Two hundred and fifty survey questionnaires are personally administered to the companies. Of the 250 questionnaires sent, 199 questionnaires are completed and returned. Therefore, 199 surveys are analyzed, resulting in a net response rate of 79.6%. Table 1 shows the demographic data of survey respondents.

Table 1: Demographic Data Of The Survey Respondents

Profile	Number of respondents	Category	Count	Percentage (%)
Gender	199	Female	100	50.3
		Male	99	49.7
Age	199	<30 years old	140	70.4
		31-40 years old	49	24.6
		41-50 years old	7	3.5
		>50 years old	3	1.5
Education	199	High school	4	2.0
		Diploma	23	11.6
		Degree	145	72.9
		Master	27	13.5
Job Function	199	Sales/Marketing	17	8.6
		Information Technology	80	40.2
		Operation	27	13.6
		Customer Services	19	9.5
		Human Resource/Admin	25	12.6
		Finance	11	5.5
		Quality/Business Improvement	2	1.0
		Others	18	9.0

3.3. Statistical Procedures

The unidimensionality of scales is analysed via exploratory factor analysis. Both reliability and correlation analyses are conducted to establish the variability and interdependence of the survey items. To test the research hypotheses, multiple regression analysis is performed to examine the relationship between culture (i.e., trust, learning and innovation), co-workers support, extrinsic reward, intrinsic reward, organizational structure and knowledge sharing practices.

4. Results

4.1. Scale Validation

The results of factor analysis are summarized in Table 2. As shown in Table 2, the values of Kaiser-Meyer-Olkin (KMO) measures of sampling adequacy for each factor are greater than the desirable threshold of 0.60 recommended by Hair *et al.* (2010). The factorability of the correlation matrix for all variables is assumed because the values for the Bartlett test of sphericity are large and significant for all the constructs, with values ranging from 120.653 (*trust*) and 466.708 (*intrinsic reward*).

Table 2 also shows that all the constructs attains the recommended eigenvalues greater than 1 (Hair *et al.*, 2010). As a result, the seven constructs (i.e., *trust, learning, innovation, co-workers support, extrinsic reward, intrinsic reward, organizational structure and knowledge sharing practices*) are significant to be studied in this research.

Table 2: Results Of Exploratory Factor Analysis

Constructs	**Survey Items**	**Kaiser-Meyer-Olkin (KMO)**	**Bartlett's Test of Sphericity**	**Eigen-values**
Trust		0.611	120.653***	1.875
TR1	I believe that people in my organization share and use the knowledge with professionalism.			
TR2	Trust facilitates knowledge exchange in my organization.			
TR3	The climate of trust helps alleviate the negative effect of perceived costs on knowledge sharing in my organization.			
Learning		0.653	150.893***	1.109
LE1	Generating new ideas are important in my organization.			
LE2	My organization encourages learning from mistake.			
LE3	My organization emphasizes continuous learning.			
Innovation		0.629	121.832***	1.989
IN1	My organization emphasizes commitment to innovation and development, a process of learning and knowledge creation.			
IN2	Openness to conflicting views is encouraged in my organization.			
IN3	My organization is good at responding to changes in the external environment.			

IN4	My organization is creative in doing things.			
Co-worker Support		0.686	135.545***	1.991
CS1	My immediate coworkers encourage open communication even if it means disagreement.			
CS2	My immediate coworkers encourage sharing of knowledge by actions and words.			
CS3	My immediate coworkers encourage each other to share solutions to work-related problems.			
Extrinsic Reward		0.809	436.432***	2.967
ER1	The organization's employees are more likely to be promoted when they share their knowledge with coworkers.			
ER2	The organization's employees are more likely to get a higher salary when they share their knowledge with coworkers.			
ER3	The organization's employees are more likely to get a higher bonus when they share their knowledge with coworkers.			
ER4	The organization's employees are likely to get more job security when they share their knowledge with coworkers.			
Intrinsic Reward		0.857	466.708***	3.311
IR1	The organization's employees who share their knowledge with coworkers are more likely to have an enhanced image than those who do not.			
IR2	The organization's employees who share their knowledge with coworkers are more likely to have prestige than those who do not.			
IR3	The organization's employees who share their knowledge with coworkers are more likely to gain recognition than whose do not.			
IR4	The organization's employees who share their knowledge with coworkers are more likely to gain respect then those who do not.			
IR5	The organization's employees who share their knowledge with coworkers			

	are more likely to be praise by superiors then those who do not.			
Organizational Structure		0.667	141.629***	1.993
OS1	The structure of our organization facilitates the development of new ideas/processes/products (i.e. knowledge creation)			
OS2	The structure of our organization facilitates the exchange of knowledge across functional formal boundaries, like department.			
OS3	The structure of our organization allows free flow of info.			
Knowledge Sharing Practices		0.788	315.460***	2.851
KS1	I share my work reports and official documents with our team members frequently.			
KS2	I always provide my manuals, methodologies and models to my team members.			
KS3	I share my experience or now-how from work with team members frequently.			
KS4	I always provide my know-where or know-whom at the request of our team members.			
KS5	I try to share my expertise from my education or training with our team members in a more effective way.			

Note. *** $p < 0.001$

The reliability analysis is assessed using diagnostic measure of Cronbach's Alpha coefficients. As shown in Table 3, the values of reliability coefficients ranged from 0.653 to 0.884, indicating that all values have met the cut-off point of 0.6 recommended by Hair *et al.* (2010). As a result, the items measuring the constructs (i.e., trust, learning, innovation, co-workers support, extrinsic reward, intrinsic reward, organizational structure and knowledge sharing practices) are reliable.

The statistical assumption of multicollinearity is also examined. According to Hair *et al.* (2010), the *r*-value between each pair of constructs in the correlation analysis should not surpass 0.90 which may result in multicollinearity. Table 3 shows that the highest correlation value is 0.490 (*intrinsic reward* with *extrinsic reward*) which is below 0.90, indicating that the impact of multicollinearity is not significant in the regression variate.

Table 3: Results Of Correlation And Reliability Analyses

Variables	TR	LE	IN	CO	ER	IR	OS	KP
TR	**0.678**							
LE	0.408**	**0.653**						

IN	0.387**	0.459**	**0.661**					
CO	0.294**	0.445**	0.379**	**0.746**				
ER	0.089	0.013	0.266**	0.153*	**0.884**			
IR	0.163*	0.230**	0.262**	0.224**	0.490**	**0.871**		
OS	0.199**	0.303**	0.383**	0.404**	0.251**	0.277**	**0.744**	
KP	0.170*	0.345**	0.422**	0.418**	0.074	0.305**	0.366**	**0.767**

Note: Correlation is significant at * p < 0.05 (two-tailed); ** p < 0.01 (two-tailed). The values in bold in the diagonal row are Cronbach's Alpha coefficients. TR=Trust; LE=Learning; IN=Innovation; CO=Coworker; ER=Extrinsic reward; IR= Intrinsic reward; KP=Knowledge Sharing Practices.

4.2. Multiple Regression Analysis

The research hypotheses are tested using multiple regression analysis. Cohen's rules for effect sizes are used to measure the magnitude of effects in this study. According to Cohen (1977, p. 83), conventional effect size is classified as follows: (1) *r*-value = 0.10 is deemed as small; (2) *r*-value = 0.30 is regarded as medium; and (3) *r*-value = 0.50 is viewed as large. Table 4 shows that the effect size of the present study is considered as large because the coefficient of determination (R^2) is 0.326. This R^2 value indicates that 32.6 percent of knowledge sharing practices can be explained by the seven independent variables. As shown in Table 4, the overall model yields a good fit to data because *F*-statistic = 13.216 (*p*-value = 0.000) is significant at the 5% level. The results of multiple regression analysis shows that *innovation* (beta coefficient = 0.264, *p*-value < 0.001), *co-workers support* (beta coefficient = 0.188, *p*-value < 0.01), *intrinsic reward* (beta coefficient = 0.168, *p*-value < 0.01) and *organizational support* (beta coefficient = 0.124, *p*-value < 0.05) are positively associated with knowledge sharing practices. *Extrinsic reward* (beta coefficient = -0.120, *p*-value < 0.05) is reported to have a significant and negative relationship with knowledge sharing practices. On the other hand, *trust* (beta coefficient = -0.071, *p*-value > 0.05) and *learning* (beta coefficient = 0.055, *p*-value > 0.05) have no significant relationship with knowledge sharing practices. Therefore, Hypotheses 3 through 7 are statistically supported.

Table 4: Results Of Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
		β	Std. Error	*β*		
1	(Constant)	1.584	0.323		4.902	0.000
	Trust	-0.071	0.064	-0.074	-1.101	0.272
	Learning	0.055	0.076	0.054	0.720	0.472
	Innovation	0.264	0.073	0.268	3.625	0.000***
	Coworker Support	0.188	0.058	0.229	3.226	0.001**
	Extrinsic Reward	-0.120	0.049	-0.175	-2.457	0.015*
	Intrinsic Reward	0.168	0.052	0.227	3.192	0.002**
	Organizational Structure	0.124	0.057	0.151	2.187	0.030*
	R^2	0.326				
	Adj. R^2	0.302				
	Sig. *F*	0.000				
	F-value	13.216				

Dependent Variable: Knowledge Sharing Practices

Note: * $p < 0.05$ (two-tailed); ** $p < 0.01$ (two-tailed); *** $p < 0.001$ (two-tailed)

5. Discussion And Conclusions

The result of multiple regression shows that, as hypothesized, innovation is positively related to knowledge sharing practices. This result is consistent with previous studies (Calantone *et al.*, 2002; Grover and Davenport, 2001; Knott, 2004) that stressed on innovation capabilities direct the practices of

knowledge sharing. Hence, organizations should emphasize on commitment to innovation, openness to conflicting views, creativity, and fast in responding to external changes.

However, trust and learning are not significantly related to knowledge sharing behaviour. This finding contradicts with previous researches (Al-Alawi *et al.*, 2007; Kang *et al.*, 2008; Lin 2007). This may due to lack of generalised trust in MSC companies. Hence, knowledge contributors may find that the effort required for knowledge sharing to be salient because they believe that others may inappropriately use their knowledge. Another reason could be most of the respondents (70.4%) are less than 30 years old. They may be new and have less working years in the organizations. Time is needed in order to build a positive atmosphere of trust and security to encourage knowledge sharing.

Co-workers support is found to be positively related to knowledge sharing practices. A possible reason for this may due to the positive peer pressure and sense of teamwork that exists within the group. Members tend to share in order to achieve the team objectives. The reinforcement of helping each other and an infectious atmosphere of purposeful communication supports the knowledge sharing practices.

As expected, organizational structure that facilitates the development of new ideas and allows free flow of information is important in promoting knowledge sharing. Traditional structures that focus on complicated layers and lines of responsibilities with details of reporting procedures are considered as knowledge sharing barriers as this type of bureaucratic structures slow down the processes and raise constraints on the flow of information. Hence, the insights here is organizations should has less formalization structure, more coordination among departments and emphasizes on informal communication in order to foster knowledge sharing activities.

The findings in this study indicate that both extrinsic and intrinsic rewards are related to knowledge sharing practices. Intrinsic reward significantly influences the knowledge sharing behaviour. This result is consistent with the previous researches (Constant *et al.*, 1996; Donath, 1999; Wasko and Faraj, 2000). Employees expect positive feedback on their contribution of knowledge sharing. Higher levels of praise, recognition, respect, prestige and image as a response to knowledge sharing may strengthen this results.

On the other hand, extrinsic reward is found to have an inverse relationship with knowledge sharing practices. This finding is consistent with the studies done in Korea (Bock and Kim, 2002; Bock *et al.*, 2005; Park and Im, 2003) in which may due to the collectivistic culture (Behnke, 2010) as compared to individualistic culture in the United Stated that indicates a positive relationship. Malaysia, as a collectivistic culture, focuses more on strong team work and collaboration but less competitive in terms of getting higher extrinsic rewards. In fact, by offering a higher extrinsic reward may jeopardize the practices of sharing knowledge as they may be viewed as “selfish and fulfilling self interest” by their team members.

As a result, this study provide an empirical evidence for a new model that shows the culture of innovation, management support, organizational structure and reward systems are implicated in individuals’ knowledge sharing behavior.

6. Research Limitations

The findings of this study need to be treated with some cautions given some limitations of the research. First, it is difficult to draw causal inferences from collection of cross-sectional data. It would be useful for future research to collect longitudinal data at different points in time. Second, the proposed research model is tested based on data gathered from Malaysia. Future research should replicate this study using data collected in different countries. Lastly, this study does not examine the moderating effects in employees’ knowledge sharing practices. It is recommended that future studies should extend the present analysis by including the moderating variables such as age and gender.

7. References

Al-Alawi, A.I., Al-Marzooqi, N.Y. and Mohammed, Y.F. (2007), “Organizational culture and knowledge sharing: critical success factors”, *Journal of Knowledge Management*, Vol. 11 No. 2, pp. 22-42.

Behnke, T.M. (2010), *Knowledge sharing at work: An examination of organizational antecedents.* Unpublished doctoral dissertation, St. Ambrose University, USA

Bhatt, G.D. (2000), "Organizing knowledge in the knowledge development cycle", *Journal of* Knowledge *Management,* Vol. 4 No. 1, pp. 15 – 26.

Blau, P.M. (1964), *Exchange and Power in Social Life,* Wiley, New York.

Bock, G.W., Zmud, R.W., Kim, Y.G. and Lee J.N. (2005), "Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate", *MIS Quarterly: Management Information Systems,* Vol. 29 No. 1, pp. 87-111.

Bock, G. W. and Kim, Y. G. (2002), "Breaking the myths of rewards", *Information Resources Management Journal*, Vol. 15 No. 2, pp. 14–21.

Brown, M.M. and Brudney, J.L. (2003), "Learning organizations in the pubic sector? A study of police agencies employing information and technology to advance knowledge", *Public Administration Review*, Vol. 63 No.1, pp. 30-43.

Cabrera, A., Collins, W. and Salgado, J. (2006), "Determinants of individual engagement in knowledge sharing", *International Journal of Human Resource Management*, Vol. 17 No. 2, pp. 245-264.

Calantone, R.J., Cavusgil, S.T. and Zhao, Y. (2002), "Learning orientation, firm innovation capability, and firm performance", *Industrial Marketing Management*, Vol. 31, pp. 515-524.

Chang, T.J., Yeh, S.P. and Yeh, I.J. (2007), "The effects of joint reward system in new product development", *International Journal of Manpower*, Vol. 28 No. 3/4, pp. 276 – 297.

Chiu, C.M., Hsu, M.H. and Wang, E.T.G. (2006), "Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories", *Decision Support Systems,* Vol. 42 No. 3, pp. 1872-1888.

Collins, C.J. and Smith, K.G. (2006), "Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms", *Academy of Management Journal,* Vol. 49 No. 3, pp. 544-560.

Cohen, J. (1977). *Statistical power analysis for the behavioral sciences* (revised edition). Academic Press, New York.

Constant, D., Kiesler, S. and Sproull, L. (1994), "What's mine is ours, or is it? A study of attitudes about information sharing", *Information Systems Research,* Vol.5 No. 4, pp. 400-421.

Davenport, T.H. (1997), *Information ecology.* Oxford University Press, Oxford.

Davenport, T.H. and Prusak, L. (1998), *Working Knowledge: How Organizations Manage What They Know*, Harvard Business School Press, Boston, MA.

De Long, D. and Fahey, L. (2000), "Diagnosing cultural barriers to knowledge management:, *Academy of Management Executive*, Vol. 14 No. 4, pp. 113-127.

Deshpande, R. and Webster, F.E. (1989), "Organizational Culture and Marketing: Defining the Research Agenda", *Journal of Marketing*, Vol. 53, 3-15.

Dixon, N.M. (2000), *Common knowledge*: *How companies thrive by sharing what they know,* Harvard Business School Press, Boston, Mass.

Donath, J. (1999), "Identity and deception in the virtual community", in Smith, M.A. and Kollock, P., (Eds) *Communities in cyberspace,* Routledge, New York, pp 29-59.

Fulk, J., Heino, R., Flanagin, A.J., Monge, P.R. and Bar, F.O. (2004), "A test of the individual action model for organizational information commons", *Organization Science*, Vol.15 No. 5, pp 569-85.

Fukuyama, F. (1996), *Trust*: *The social virtues and the creation of prosperity*, Simon &. Schuster, New York.

Grover, V. and Davenport, T. H. (2001), "General Perspectives on Knowledge Management: Fostering a Research Agenda", *Journal of Management Information Systems*, Vol. 18 No.1, pp. 5-21.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010), *Multivariate Data Analysis: A Global Perspective,* Pearson Education, New Jersey, 7th Edn.

Hansen, M.T., Nohria and N., Tierney, T. (1999), "What's Your Strategy for Managing Knowledge?", *Harvard Business Review*, Vol. 77 No. 2, pp.106-11.

Hsu, I.C. (2006), "Enhancing employee tendencies to share knowledge - case studies of nine companies in Taiwan", *International Journal of Information Management,* Vol. 26 No. 4, pp. 326-338.

Hyoung, K.M. and Moon, S.P. (2002), "Effective rewards systems for knowledge sharing", *Knowledge Management Review*, Vol. 4 No. 6, pp. 22-33.

Ipe, M. (2003), "Knowledge sharing in organizations: A conceptual framework", *Human Resource Development,* Vol. 2 No. 4, pp. 337-359.

Jones, M.C. (2005), "Tacit knowledge sharing during ERP implementation: A multi-site case study", *Information Resources Management Journal*, Vol. 18 No. 2, pp.1-23.

Kang, Y.J., Kim, S.E. and Chang, G.W. (2008), "The impact of knowledge sharing on work performance: an empirical analysis of the public employees' perceptions in South Korea", *International Journal of Public Administration,* Vol. 31 No. 14, pp.1548-68.

Kankanhalli, A., Tan, B.C.Y. and Wei, K.K. (2005), "Contributing knowledge to electronic knowledge repositories: An empirical investigation", *MIS Quarterly, Management Information Systems,* Vol. 29 No. 1, pp. 113-143.

Kim, S. and Lee, H. (2006), "The impact of organizational context and information technology on employee knowledge-sharing capabilities", *Public Administration Review*, Vol. 66 No. 3, pp. 370-385.

Knott, A.M. (2004), "Persistent heterogeneity and sustainable innovation", *Strategic Management Journal*, Vol. 24 No. 8, pp. 687–705.

Kogut, B. and Zander, U. (1996), **"**What Firms Do? Coordination, Identity, and Learning", *Organization Science,* Vol. 7 No. 5, pp. 502-518.

Kubo, M, Van De Water, L, Plantefaber, LC, Mosesson, MW., Simon, M., Tonnesen, MG., Taichman, L., and Clark, RAF. (2001) Fibrinogen and fibrin are anti-adhesive for keratinocytes: A mechanism for fibrin eschar slough during wound repair. Journal of Investigative Dermatology, Vol.117, pp.1369–1381,

Kulkarni, U.R., Ravindran, S., Freeze, R. (2006), "A knowledge management success model: Theoretical development and empirical validation", *Journal of Management Information Systems,* Vol. 23 No. 3, pp. 309-347.

Kwok, S.H. and Gao, S. (2005), *"*Attitude towards knowledge sharing behaviour"*, Journal of Computer Information Systems*, Vol. 46 No. 2*,* pp. 45-51.

Lee, J.H., Kim, Y.G. and Kim, M.Y. (2006), "Effects of managerial drivers and climate maturity on knowledge-management performance: Empirical validation", *Information Resources Management Journal*, Vol. 19 No. 3, 48-60.

Lee, H. and Choi, B. (2003), "Knowledge Management Enablers, Processes, and Organisational Performance: An Integrative View and Empirical Examination", *Journal of Management Information Systems,* Vol. 20 No. 1, pp.179-228.

Liao, L. (2006), "A learning organization perspective on knowledge-sharing behavior and firm innovation", *Human Systems Management,* Vol. 25 No. 4, pp. 227-36.

Liebowitz, J. (2003), "A knowledge management strategy for Jason organization", *Journal of Computer Information Systems,* Vol. 44 No. 2, pp.1-5.

Lin, C.P. (2007), "To share or not to share: modelling knowledge sharing using exchange ideology as a moderator", *Personnel Review,* Vol. 36 No. 3, pp. 457-475.

McAdam, R. and Reid, R. (2000), "A comparison of public and private sector perceptions and use of knowledge management", *Journal of European Industrial Training*, Vol. 24 No. 6, pp. 317-29.

McKinnon, J.L., Harrison, G.L., Chow, C.W. and Wu, A. (2003), "Organizational culture: Association with commitment, job satisfaction, propensity to remain, and information sharing in Taiwan", *International Journal of Business Studies,* Vol. 11 No. 1, pp. 25–44.

Mishra, A.K. (1996). "Organizational responses to crisis: The centrality of trust", in R.M. Kramer, R.M. and Tyler, T.R. (Eds.), *Trust in organizations: Frontiers of theory and research*, Sage, Thousand Oaks, CA, pp. 261-287.

Multimedia Super Corridor (2010), "MSC Malaysia Company Director"; available at: www.mscmalaysia.my/topic/Company+Directory#. (accessed February 2011)

Multimedia Super Corridor (2011). "Facts and Figures", available at: www.mscmalaysia.my/topic/12073059402587 (accessed February 2011)

Murray, P., Donegan, K. (2003). "Empirical linkages between firm competencies and organizational learning", *The Learning Organization,* Vol.10 No. 3, pp.51-62.

Nahapiet, J. and Ghoshal, S. (1998), "Social capital, intellectual capital, and the organizational advantage", *Academy of Management Review,* Vol. 23 No. 2, pp. 242–266.

Nelson, A., Sabatier, R. and Nelson, W. (2006), "Toward an understanding of global entrepreneurial knowledge management (EKM) practices: A preliminary investigation of EKM in France and the U.S", *Journal of Applied Management and Entrepreneurship,* Vol. 11 No. 2, pp. 70–89.

Nonaka, I. and Takeuchi, H. (1995), *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation,* Oxford University, New York.

O'Dell, C. and Grayson, C.J. (1998), "If only we knew what we know: Identification and transfer of internal best practices", *California Management Review,* Vol. 40 No. 3, pp. 14-37.

Osterloh, M. and Frey, B.S. (2000), "Motivation, knowledge transfer, and organizational forms", *Organization Science,* Vol. 11 No. 5, pp. 538-550.

Park, H.S. and Im, B.C. (2003), "A study on the knowledge sharing behaviors of local public servants in Korea: Structural equation analysis", paper presented at the Joint Conference of the Tenth International Conference on Advances in Management Korean Association for Public Administration & Korea Institute of Public Administration.

Pettigrew, A.M. (1979), "On studying organizational cultures", *Administrative Science Quarterly*, 570-581.

Ruppel, C.P. and Harrington, S.J. (2001) "Sharing knowledge through intranets: A study of organizational culture and intranet implementation", *IEEE Transactions on Professional Communication,*

Vol. 44 No. 1, pp. 37–52.

Schepers, P. and van den Berg, P.T. (2007), "Social factors of work-environment creativity", *Journal of Business and Psychology*, Vol. 21 No. 3, pp. 407–428.

Tan, K.S., Chong, S.C., Lin, B. and Eze, U.C. (2009), "Internet-based ICT adoption: Evidence from Malaysian SMEs", *Industrial Management & Data Systems*, Vol. 109 No. 2, pp. 224-244.

Taylor, W.A. and Wright, G.H. (2004), "Organizational readiness for successful knowledge sharing: Challenges for public sector managers", *Information Resources Management Journal,* Vol. 17 No. 2, pp. 22–37.

Voelpel, S.C., Dous, M. and Davenport, T.H. (2005), "Five steps to creating a global knowledge-sharing system: Siemens' ShareNet", *Academy of Management Executive*, Vol. 19 No. 2, pp. 9–23.

Wang, S. and Noe, R. (2010) "Knowledge sharing: A review and directions for future research", *Human Resource Management Review*, Vol. 20 No. 2, pp.115-131.

Wasko, M.M. and Faraj, S. (2005), "Why should I share? Examining social capital and knowledge contribution in electronic networks of practice", *MIS Quarterly*, Vol. 29 No. 1, pp. 35–57.

Willem, A. and Scarbrough, H. (2006), "Social capital and political bias in knowledge sharing: An exploratory study", *Human Relations*, Vol. 59 No. 10, pp. 1343–1370.

Wright, P. (1998), "Do incentive schemes promote knowledge sharing?", *Knowledge Management. Review*, Vol. 1 No. 3, pp. 4-6.

Yang, J. (2007), 'The impact of knowledge sharing on organizational learning and effectiveness", *Journal* of Knowledge Management*,* Vol. 11 No. 2, pp. 83-90.

Yang, C. and Chen, L.C. (2007), "Can organizational knowledge capabilities affect knowledge sharing behavior?", *Journal of Information Science*, Vol. 33 No. 1, pp. 95–109.

About the Authors:

Dr. Chin Wei Chong is an associate professor in Faculty of Management at Multimedia University, Malaysia. She received her PhD from Multimedia University. Her publications have appeared in various international refereed journals, conference proceedings and book chapters. Her research interests include knowledge management, knowledge sharing, inter-organisational knowledge transfer and knowledge culture.

Dr Chong Chin Wei, Associate Professor, Faculty of Management, Multimedia University, Persiaran Multimedia, 63100 Cyberjaya, Selangor, Malaysia. Tel: +603-83125653; Fax: +603-83125590; E-mail: cwchong@mmu.edu.my

Dr. Pei-Lee Teh was formerly a lecturer at Faculty of Management, Multimedia University, Malaysia. She is currently a Senior Lecturer at School of Business, Monash University. Her teaching and research interests cover knowledge management, knowledge sharing, total quality management and technology management.

Dr. Pei-Lee Teh, Senior Lecturer, School of Business, Monash University, Jalan Lagoon Selatan, 46150 Bandar Sunway, Selangor Darul Ehsan, Malaysia. Tel: +603-551-44971; Fax.+603-551-46192; Email: teh.pei.lee@monash.edu

Dr. Arnifa Asmawi is a lecturer at the Faculty of Management, Multimedia University, Malaysia. She received her Phd from Multimedia University. Her research interests mainly include organizational issues in R&D management namely organizational culture, knowledge management; leadership and team dynamics.

Dr Arnifa Asmawi, Lecturer, Faculty of Management, Multimedia University, Persiaran Multimedia, 63100 Cyberjaya, Selangor Darul Ehsan, Malaysia. Tel: +603-8312 5856; Fax: +603-8312 5590; Email: arnifa.asmawi@mmu.edu.my.