



## Knowledge Sharing in a Knowledge Intensive Organisation: Identifying the Enablers

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### Abstract

The importance of organizational learning and knowledge to the competitive strength of organisation has become common wisdom. The challenge is in generating new knowledge via active learning and the sharing of the knowledge to ensure optimum exploitation. The identification and creation of the context, the policies, the structures and the mechanisms to facilitate learning, retention, sharing/transfer, and exploitation of knowledge are the real issues on the road to becoming a learning organisation. A total 118 executives of a knowledge intensive firm were surveyed to examine the role of these enablers on their knowledge sharing behavior. The commitment to training and development, access to learning resources, retention of learning, incentives for and feedback on learning were examined as key enablers of knowledge sharing. Correlation analysis suggests that the enablers posited are moderately to highly inter-related. Regression analysis shows that model accounts for 68% of the variance in knowledge sharing. Of the 5 enablers examined, feedback on learning and access to learning resources were significant and point toward a strong role in knowledge sharing. The study provides strong support for the synergistic use of internally coherent set of practices with feedback on learning behavior and access to learning resources playing the principal role in stimulating knowledge sharing. The findings generally resonate with the positions taken by Nonaka and Takuechi (1998), Krogh et al. (2002), Snowden (2003) and Gilmour (2003) who call for “atmospheric management” in knowledge intensive firms.

**Keywords:** Organizational Learning, Sharing of knowledge, Knowledge management

### 1. Introduction

The capacity of an organisation to learn and to exploit the outcome of learning – the knowledge, more effectively than the rest is viewed as a core competence that can assure competitive advantage in today’s uncertain business environment (Hsu, 2008; Lim & Chan, 2004; Senge, 2003). Evidence shows that organisations with superior performance relative to their counterparts engage actively and systematically in organisational learning and sharing activities (Accenture, 2004; Breene & Thomas, 2004; Hsu, 2006; Stewart, 2001). Although the organisational learning (OL) stream of study has somewhat been overshadowed by the arrival of knowledge management (KM), intensifying learning and maximizing exploitation of knowledge is still the key challenge (Magalhaes, 1996:23; Senge, 2003). The main challenge faced by knowledge intensive firms (KIF) is to facilitate the learning and sharing of knowledge among and between members of an organisation (Alvesson & Karreman, 2001; Currie & Kerrin, 2003). The extent of knowledge sharing transforms individual learning into potentially OL and becomes a more stable component of the organisational store of knowledge to be readily exploited by all whenever the occasion arises. Hence, sharing of knowledge occupies a central role in KM (Bartell, 2001; Hsu, 2006). Knowledge intensive organisations (i.e. professional firms, consultancies, advertising agencies, software etc.) rely on the knowledge factor more than other firms and hence, the strategic importance of knowledge sharing within the organisation (Lee & Ahn, 2007; Bechina &

Bommen, 2006; Karreman, Sveningsson & Alvesson, 2003; Alvesson, 1995). This study examines the factors that influence the extent of sharing of knowledge in a knowledge intensive organisation – a systems integrator.

## 2. Literature review

Ever since Nonaka dan Takuechi (1995) popularized OL/KM as the new key arsenal in competitive strength, the management of the learning process and product has taken centre stage in organizational analysis. OL calls for not only more intensive attention to learning at all levels, it also requires that the learning be transferred from individuals to the collective to become accepted and later embedded as organizational learning (Crossan, Lane & White, 1999). Nonaka & Takuechi's (1996) Socialization, Externalization, Combination and Internalization (SECI) model placed sharing or exchange as the mechanism of transforming the knowledge types. The two key challenges for KM and OL are to intensify learning (and knowledge acquisition) and also to share (and to exploit) the resultant knowledge across the organisation (Bechina & Bommen, 2006)

### 2.1 Training and Development

To intensify knowledge sharing, organisations must continue or redouble structured learning via effective training and development of its staff (Beer, 2003; Bartell, 2000). This helps in transferring explicit and tacit competencies to the employees to ensure talent regeneration. This also provides formal and organized occasion for people to learn from each other (Liebowitz, 1999). As Hsu (2008) indicated, investment in people signals to the employees the management's values and commitment to their skills and knowledge development. A recent Accenture study showed that, contrary to popular fear, investing in the development of the executives engenders stronger commitment to the organization's values and intentions to stay on (Craig, Pham & Bobulsky, 2008:13).

### 2.2 Access to Resources

The intermittent training programmes are inadequate in the world of rapid change. Given the rapid development and flux in knowledge in all disciplines and practices, the traditional methods, though necessary, are inadequate (Accenture, 2004). Employees must be motivated to learn continually on their own. Mere exhortations are not substantive evidence of top management commitment to self-learning (Breene and Thomas, 2004). The management must provide the access to resources to enable learning to take place. Hsu (2006) provided idiographic evidence of e-learning systems which facilitated continual learning as an antecedent of knowledge sharing. These facilities can take place in form of professional memberships, subscription to professional journals, attendance at forums, conferences and exhibitions, sabbaticals etc.

### 2.3 Incentives and Rewards

Making available the resources does not mean staff will avail themselves of these opportunities (Grover & Davenport, 2001). Ghosh (2004) asserted that knowledge sharing is time consuming and potentially dilutes personal power. In fact, knowledge hoarding is viewed as compatible with the nature of many workplaces – individualistic, political and competitive. Cormican and Dooley's (2007) survey of Knowledge Management Officers (KMO) noted that motivating employees to share is the primary challenge and KMOs expressed frustration at the lack of practical models to engender such motivation (p.109). All theories of human motivation call for the staff to be adequately incentivized to respond to or engage in the learning activities. (APQC, 2001; Zhang, 2005; Ghosh, 2004:12). Altruism is not sufficient or reliable driver of human behavior. Needs fulfillment must be addressed to drive employee behavior towards continual self-learning. However, to be effective Gammelgaard, (2007) found that the incentive system must be customized to, among others, the level of employees and also the type of knowledge sharing sought. Lee and Ahn (2007) showed that the optimality of the rewards systems in producing knowledge sharing among employees is dependent on the KM strategies pursued i.e. codification or personalization. Hsu (2006) noted that high performing Taiwanese firms only used extrinsic rewards sparingly and relied more on intrinsic rewards to engender knowledge sharing among its employees. Some studies, however, did not find rewards a significant factor in sharing and attitudes and intentions and have cautioned against its use (Kankanhalli, Tan & Wei, 2005; Lin, 2007). In the main, the literature calls for a calibrated and judicious use of rewards to move people to share or transfer their knowledge.

### 2.4 Performance Evaluation and Feedback

While managers may expect knowledge sharing among their staff, the communication of this imperative is fraught with lack of clarity and uncertainties (Cormican & Dooley, 2007:109). Regular evaluation and also feedback on the state of knowledge sharing within the organisation and between groups to the staff, communicates the management's meaning and priorities effectively. Empirically, Hsu (2006) found that higher performing firms in Taiwan provided feedback on knowledge sharing much more actively; and formally than did the less performing ones (p.330). To effectively manage the learning and sharing behavior of the staff, managers must provide periodic feedback on the learning performance of every staff. The feedback communicates to the staff the seriousness of the management and the importance of this attribute. Evaluations and feedback which are developmental in orientation was a common practice found among successful Taiwanese firms (Hsu, 2007:332).

### 2.5 Knowledge Retention

The tools-based approach to knowledge sharing essentially focused on creating the platforms and repositories for employees to transfer their knowledge i.e. their learning to enable easier sharing within the organisation (Swan, Newell, Scarborough, & Hislop, 1999). As active learning by individuals enhances the capacity of individual staff, the management must also establish practices to encourage the retention of this learning within the organisation by explicit practices of reporting, reflections, review and insight papers and regular open sharing with associates. Through these practices the individual learning has the potential of becoming organizational – shared and embedded in organizational routines. Most importantly, the feedback should also focus on the efforts to share the knowledge with the relevant others in the organisation. McManus, Wilson and Snyder (2004) and Gilmour (2003) cautioned that knowledge retention projects have yet to show convincing returns on investment. The tool-based KM changes that created bloated repositories of so-called knowledge have since been questioned (Gilmour, 2003).

### 2.6 Knowledge Sharing

Knowledge sharing involves the transfer of knowledge from one person, group or firm to another (Garvin, 1993). Knowledge sharing as a central pillar of KM is critical to the realization of its full value. Indeed, knowledge sharing is recognised as the most intractable problem facing KM (Chow & Chan, 2008; Bechina & Bommen, 2006). Hsu (2008) found support for the innovation strategy and management values as antecedents of knowledge sharing. The nature of knowledge is also a key factor in effective knowledge sharing. Explicit knowledge can be shared more easily through many formal methods of training and development. It is the tacit knowledge that is difficult to share but more important that it is shared. Since, knowledge hoarding is common human attitude, it must be reversed through greater trust (Cormican & Dooley, 2007), effective management communication (Hsu, 2008), better evaluation and feedback (Hsu, 2006; MacManus et al., 2004) and appropriately tailored reward schemes (Hsu, 2006; Lee & Ahn, 2007). An HRM system that explicitly calls for knowledge sharing and systematically reinforces this attribute is evident in high performing firms (Hsu, 2006). He opined that a more integrative approach via the HRM system has a greater chance of success than piecemeal approaches.

## 3. Conceptual Framework

Most studies in information science have focused on the technical perspective of sharing i.e. knowledge management systems but there is greater appreciation now of the psychology and sociology of sharing (Choi, Kang & Lee, 2008:743). This study adopts a social and humanistic perspective in looking at the enablers of knowledge sharing in organisations as enjoined by (Hsu, 2006:336; Cormican & Dooley, 2007:111). Knowledge sharing is posited as being shaped by the learning value that is articulated by and manifested in the five learning practices (see Fig. 1). Strong top management commitment is a *sine quo non* for all changes in the organisation (Kotter, 1996) and holds the same with knowledge sharing (Hsu, 2008). Without management commitment, the training and development activities lack importance in the scheme of things in an organisation (Beer, 2003; Hsu, 2006; Lipshitz, et al., 2002). Visible involvement and budget support are necessary to transmit the interest and attention of the management to the rest (Cormican & Dooley, 2007). Specifically in the context of KIFs, the knowledge of the present and impending technologies, market needs etc. are critical elements in winning new projects, contracts and clients. Therefore, the KIFs must make available effective access to learning resources. These resources may be subscription to relevant professional journals, attendance at conferences and seminars, exhibitions and trade shows, networking time and etc. These resources enable continuous and life-long learning which is necessary to keep up with the industry.

Exhortations alone will not do the job. The employees look at the signaling system to ‘understand’ what is important and what is merely rhetorical. Incentives, when systematically and systemically designed and delivered, will incentivize required attitudes and behaviors among the employees (Beer, 2003; Lee & Ahn, 2007). It is widely acknowledged that much of the training and development expenditure is wasted because there is no transfer to the work or to others (Bartell, 2001; Macaulay & Cree, 1999). There is a strong and obvious self-interest in hoarding knowledge. The organization must reverse this adverse habit by giving suitable incentives to share and help others. It is not enough to set goals for employees but appropriate feedback must be given to encourage the employees and also to counsel those who are less productive in the sharing function. The feedback helps to transmit the importance of the value of sharing of what is learned or acquired.

## 4. Method

A total 118 structured questionnaires were distributed to the executives in the Techco (not the real name of the knowledge intensive firm). All questionnaires were returned providing a 100% response rate. For the study, we utilised Ellis and Shpielberg’s (2003) Organizational Learning Mechanism Questionnaire. The instrument used 48 Likert type items to assess various facets of the learning processes. Five items in the original measure were rephrased for greater clarity after the pilot test. The factor analysis showed that 6 items did not converge on the factors as expected and these items were dropped from further analysis. The Cronbach Alpha for the Likert type multi-item measures are displayed

in the diagonals in Table 2. The instruments demonstrated acceptable level of reliability beyond Cronbach Alpha level of .70 to proceed with the analysis (Hair et al., 2006; Nunnally, 1978).

## 5. Results

The company is a Malay-owned company and as such the employee racial distribution is not unexpected. The average age of the executives is 31 and have about 3 years of working experience.

### 5.1 Profile of Respondents

The employee profile is shown in Table 1. A majority of the executives are female and this gender distribution is no surprise given that about the same distribution is evident in graduate output of universities in Malaysia (Hazman, 2005). Besides, in KIFs, female entrants face fewer difficulties in securing employment. A great majority of the executives have degree or diploma and are engaged in research and development work – the heart of the technology company (Alvesson, 1995). The educational profile of the executives supports the KIF classification of the firm. As a medium sized privately held Malay owned company, the clear dominance of Malays in the workforce is not unusual.

### 5.2 Inter-variable Correlation

The organizational learning variables display strong positive correlations between and among the variables. The lowest correlation is .427 and highest is .773. The moderate to high inter-correlation shows that there is some degree of coherence in the overall effort to share learning among and between employees (see Table 2).

Knowledge sharing was regressed on 5 predictor variables (see Table 3). The regression model is significant with an F value of 48.229 ( $p < .000$ ) and model has fairly high explanatory power. The Tolerance and VIF values were examined for evidence of collinearity. As a rule of thumb TOL values less than .3 (or VIF values  $\geq 4.0$ ) is indicative of multi-collinearity problems (Hair et al., 2006). The TOL values for all the independent variables were above this cut-off criterion. About 68% of the variance in sharing of knowledge was explained by the 5 predictor variables. Unsurprisingly, only Access to Resources and Feedback emerged as significant predictors of sharing of knowledge.

The results provide strong support for the belief that sharing of knowledge is influenced or affected by the quality of feedback and also the extent of access to learning resources. These relationships are not hard to fathom in a practical sense. More sharing can take place if more means to acquire knowledge exists in the first place. Similarly, feedback on how one is performing in so far as sharing of learning is concern signals the importance of the conduct organizationally. Importance of a value is a perceptually and socially constructed property in organisational life. It also indicates to the focal individual that the conduct is being observed and will be appropriately rewarded when it reaches a noticeable threshold. All KM proponents suggest incentives to encourage sharing behaviour among the employees and to undermine the natural propensity to hoard knowledge.

## 6. Discussion

The study posited that commitment to training and development, access to learning resources, retention arrangements, incentives for and feedback on learning behavior facilitate knowledge sharing in knowledge intensive firms based on the review of literature. Evidence from this study indicates that knowledge sharing is positively correlated with all the learning enablers examined. Most notably, the correlation of knowledge sharing with feedback on learning ( $r = .773$ ,  $p < .001$ ) and access to resources ( $r = .668$ ,  $p < .01$ ) is much stronger than the rest. The significant and relatively high correlation between the learning variables provide further evidence that sharing of the product of learning – i.e. knowledge must be actively and systematically nurtured (Hsu, 2008; Hayes & Walsham, 2000). A variety of practices as posited in this study must be synergistically implemented to give knowledge sharing the necessary collective impetus. Given the differentiated nature of most organizations, management policy and practice often lacks optimal integration and unity of purpose (Lawrence and Lorsch, 1967). Ideally, the many practices must be aligned to achieve maximal impact in furthering the knowledge sharing goal (Kaplan & Norton, 1996).

The regression analysis singled out access to learning resources ( $b = .458$ ,  $p = .000$ ) and feedback on learning ( $b = .230$ ,  $p = .007$ ) as the key influence on knowledge sharing. The two predictors accounted for about 68% of variance in knowledge sharing which, by Cohen's (1992) reckoning is a large effect size. Learning is not a costless activity. Organisation must be willing to invest in the learning resources and activities of their employees. Providing access to learning resources for the employees especially when it involves significant costs is a mark of faith in the employees to learn, share and contribute. The trust that the employer places in their employees, strengthens the psychological contract between the two (Craig, Pham & Bobulsky, 2008). This reciprocity is a necessary element of the social capital that is a precondition to effective sharing of learning within organisations. This relational dimension is critical to transfer of knowledge – the Achilles heel of knowledge management (Nahapiet & Ghoshal, 1998). As social exchange theorists propounded, it is the mutuality of benefit that facilitates the exchange and reduces the transaction cost of the exchange process (Blau, 1998; Homans, 1961; Thibaut and Kelly, 1959). Rhetorical commitment to knowledge sharing cannot

actively undermine the natural instinct to hoard knowledge which, according to Alvesson & Karreman (2001) and Kamoche & Mueller (1998), is quite a rampant behavior.

The feedback to the employees on their performance or behaviour is a cardinal rule in human performance management (Breene & Thomas, 2004). Feedback on learning behavior indicates to employees that their performance is being observed. It also transmits the importance of the value of sharing beyond the usual exhortations and rhetoric (Hsu, 2006). Peter Drucker's (1954) dictum that "what gets measured, gets done" is highly instructive here. When the feedback is provided by important others i.e. managers and is perceived to be frank, fair and developmental, commitment will be strengthened. Hence, the empirical results points to the twin policy of investment in learning and feedback to engender greater sharing of learning or knowledge to maximise the potential to exploit knowledge for business success.

## 7. Conclusion

In conclusion, the study provides further evidence of, and adds weight to the importance of access to learning resources of all kinds and feedback on learning as means to stimulate greater sharing of knowledge in knowledge intensive organisations. Unless knowledge can be diffused into the organisation, the learning must remain individual or group-based. Little organisational learning can be said to take place. In this regard, this study provides yet another test to tease out the enablers of knowledge sharing. However, this is a single organisation study and as such the observed relationships could be context dependent. It is a knowledge intensive firm and therefore, the awareness of sharing is probably a lot more heightened than that in ordinary organisations. Despite the strength of the relationships observed in this study, the usual caveat in generalisation to other settings applies.

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Table 1. Profile of Respondents

	Profile	No	%
1	Gender		
	Male	46	39
	Female	67	56.8
	NA	5	4.2
2	Race		
	Malay	76	64.4
	Chinese	24	21.3
	Indian	5	4.2
	Others	2	1.7
	NA	11	9.3
3	Department		
	Marketing	7	5.9
	Research & Development	65	55.1
	Technical Support	18	15.3
	Operational Support	13	11
	Retailing	3	2.5
	NA	12	10.2
4	Qualification		
	SPM	1	.8
	Diploma	20	16.9
	Degree	89	75.4
	Masters	4	3.4
	NA	4	3.4
5	Experience	2.36*	1.776**
6	Age	31.6*	18.8**

\* Mean, \*\* Standard deviation

Table 2. Pearson Inter-Variable Correlations

	Variables	M	SD	1	2	3	4	5	6
1	Commitment to Training.	3.3462	.63610	(.89)					
2	Access to Learning Resources	3.2665	.50564	.616**	(.82)				
3	Retention of Learning	3.4110	.54765	.510**	.649**	(.74)			
4	Knowledge Sharing	3.3320	.42723	.597**	.773**	.659**	(.87)		
5	Incentive for Learning	3.4421	.54635	.417**	.561**	.591**	.566**	(.70)	
6	Feedback on Learning	3.3085	.51217	.536**	.627**	.729**	.688**	.585**	(.80)

\*\* Correlation is significant at the 0.01 level (2-tailed). The Cronbach Alphas are in the diagonals

Table 3. Predictors of Knowledge Sharing

Predictors	b	Std Err	Std b	t	Sig.
Constant	.735	.174		4.224	.000
Commitment to Training & Development	.076	.047	.113	1.618	.109
Access to Learning Resources	.387	.068	<b>.458</b>	5.657	<b>.000</b>
Incentives for Learning	.056	.055	.071	1.007	.316
Feedback on Learning	.192	.070	<b>.230</b>	2.724	<b>.007</b>
Retention of Learning	.074	.067	.094	1.107	.271
<b>Model Summary</b>					
R <sup>2</sup>			.683		
Adj. R <sup>2</sup>			.669		
F value			48.229		

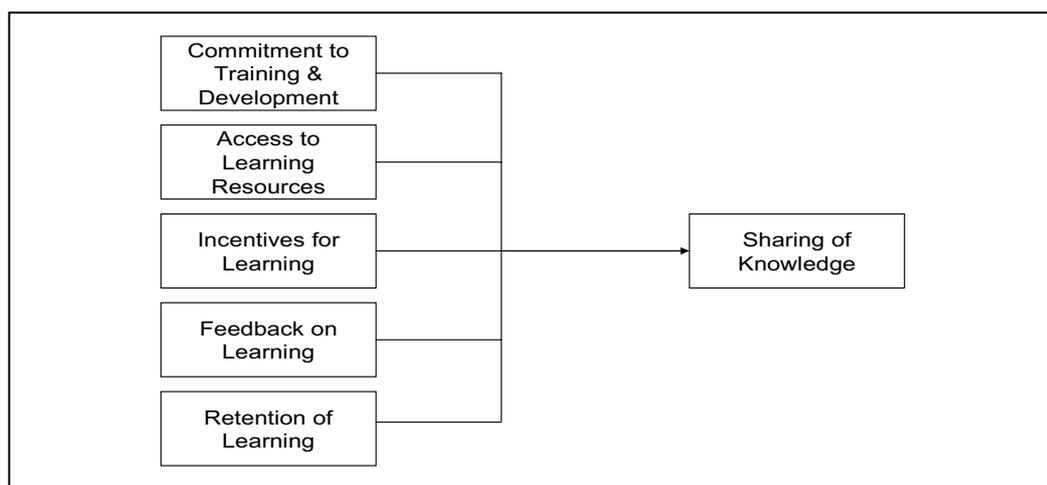


Figure 1. Conceptual Framework