A Model of Antecedents of Knowledge Sharing

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ABSTRACT

This paper looks at how organisations can become more sophisticated at supporting knowledge sharing, by identifying antecedents of knowledge sharing. The paper contributes to the literature in two ways: it develops a comprehensive model of antecedents of knowledge sharing that differentiates between three categories of antecedents: people infrastructure, organisational infrastructure and knowledge values. Secondly, the paper examines the relationship between perception of knowledge ownership and knowledge sharing in light of all other variables. The paper represents work in progress. The final version of the proposed model will be tested in technology parks in Australia and Malaysia.

Keywords

Knowledge Sharing, learning orientation, networks

1.0 INTRODUCTION

In the new era of the knowledge economy, knowledge-based work has replaced regular, sequential work with its characteristics of flexibility, complexity, and high uncertainty (Shieh-Chieh, Fu-Sheng & Kuo-Chien, 2005). Within this context, organisation’s ability to effectively implement knowledge-based activities becomes increasingly vital for the development and sustenance of competitive advantage (De Carolis, 2003; Grant, 1996). Fundamentally, knowledge-based activities include the creation and integration of knowledge, the accumulation and utilization of knowledge, and the learning and sharing of knowledge and together, these comprise knowledge management (Shieh-Chieh, Fu-Sheng & Kuo-Chien, 2005). Among these, knowledge sharing, or flow, is the cornerstone of knowledge management (Szulanski, 1996; Gupta & Govindarajan, 2000). However, Spender and Grant (1996) point out that despite recent interest in organisationally embedded knowledge, little progress has been made “in understanding its anatomy and creation.” Researchers have argued that individuals, namely knowledge workers, are the prime source of knowledge (Jarvenpaa & Staples, 2001), and are the prime movers of knowledge creation within organisations (Nonaka, 1994). Through their experience in the organisation’s key processes they create, find, and accumulate knowledge. Researchers argue that knowledge sharing of individually held knowledge can assist in knowledge creation at the collective level, i.e. the organisational level. For example, Senge (1990) proposed that organisational knowledge is created through communication of individual learning among co-workers. Nahapiet and Goshal (1998) postulated that organisational knowledge is created as a result of the combination and exchange of existing knowledge among employees. Thus, given the importance of knowledge sharing, scholars and practitioners are interested in identifying the antecedents that would enhance knowledge sharing within the organisation. This paper is the first phase of a two stage research project. In the first phase, a model of antecedents of knowledge sharing is proposed. In the second phase a refined version of the model will be tested in technology parks in Australia and Malaysia.

2.0 KNOWLEDGE SHARING

According to Davenport and Prusak (1998), knowledge sharing occurs in organisations when members ask for knowledge from other members to solve their problems. Dixon (2000) pointed out that the so-called “common knowledge” is the knowledge employees learn from doing the organisational tasks. After identifying the relationships between actions and outcomes, a state of common knowledge is gained by sharing the interpretations among members. Furthermore, Dixon (2000) indicated that both explicit and tacit knowledge require different processes for sharing. Finally, Bartol and Srivastava (2002) defined knowledge sharing as, individuals sharing organisational relevant information, ideas, suggestions, and expertise with one another. Therefore, it can be seen that knowledge can be explicit or tacit. Explicit knowledge can be expressed in words and numbers, and easily communicated and shared in the form of hard data, scientific formulae, codified procedures, or universal principles. This knowledge is viewed synonymously with a computer code, a chemical formula, or a set of general rules (Nonaka, 1995). It is a knowledge that can be easily blueprinted, put into
books, reports, manuals and so forth. This kind of knowledge is best transferred through the impersonal communication of technological transfer method (Rebentisch & Ferretti, 1995). This view of knowledge is deeply ingrained in the Western management philosophy which views an organisation as an information processing machine (Nonaka, 1995, p. 8). In contrast to explicit knowledge is the concept of tacit knowledge. Tacit knowledge is highly personal and hard to formalise, making it difficult to communicate or to share with others (at least not via impersonal communication methods). Insights, intuitions and hunches fall into this category of tacit knowledge, to mention some. Furthermore, tacit knowledge is deeply rooted in an individual’s actions and experience, as well as in the ideals, values or emotions he or she embraces (Nonaka, 1995). Ultimately it goes to a person’s expertise (Bender & Fish, 2000). Nonaka (1994) suggested that tacit knowledge can be transferred through the processes of socialisation, observation, and apprenticeship which require the maximum opportunity for both the source and the recipient to work alongside. Thus, sharing knowledge, whether explicit or tacit, requires effort on the part of the individual doing the sharing.

Not only knowledge sharing requires effort on the part of the individual sharing it, it also contains an element of reciprocity. This makes knowledge sharing different from information sharing. Whereas knowledge sharing contains elements of reciprocity, information sharing is about the management making information available to all members of the organisation and it could be unidirectional and unrequested.

Knowledge sharing is a key component of knowledge management systems (Alvi & Leidner, 2001; Earl, 2001). Based on the taxonomy of knowledge management systems proposed by Earl (2001), Bartol and Srivastava (2002) identified four major mechanisms for individuals to share their knowledge in organisation: (1) contribution of knowledge to organisational databases; (2) sharing knowledge in formal interactions within or across teams or work units; (3) sharing knowledge in informal interactions within individuals; and (4) sharing knowledge within communities of practice, which are voluntary forums of employees around a topic of interest.

Knowledge sharing can also be compared to organisational citizenship behaviour or prosocial organisational behaviour. Brief and Motowildo (1986) defined prosocial organisational behaviour as positive social acts carried out to produce and maintain the well being and integrity of others. Examples of prosocial behaviours include acts like helping, sharing, donating, cooperating, and volunteering. Like knowledge sharing, these behaviours can be directed towards an individual or towards the organisation as a whole. However, knowledge sharing is not synonymous to these constructs. For an action to be considered organisational citizenship behaviour it must be performed both spontaneously and voluntarily. Although knowledge sharing may be voluntary (Kelloway & Barling, 2000), it is not necessarily spontaneous. In fact, knowledge sharing is almost always the subject of managerial exhortations and organisational reward structures, while organisational citizenship behaviour is largely unrewarded extra behaviour.

### 3.0 Conceptual Framework

This paper does not attempt to reinvent the wheel, rather, it is an attempt to synthesise the literature of antecedents of knowledge sharing. While numerous studies identified facilitators and hinders of knowledge sharing, it can be argued that a comprehensive model of antecedents of knowledge sharing is far from being reached. This paper contributes to the literature in two ways: first, it develops a comprehensive model of antecedents of knowledge sharing that differentiates between three categories of antecedents: people infrastructure, organisational infrastructure and knowledge values. In making this distinction the paper draws from the strategic marketing literature from where the knowledge values are derived. Secondly, the paper examines the relationship between perception of knowledge ownership and knowledge sharing in light of all other variables which was not done before. Some of the antecedents are exhibited in Table 1.

#### 3.1 Perception of Knowledge Ownership

It is assumed that, either legally or morally, the organisation has the right to find, collect, store and disseminate information that individuals created or acquired. Constant, Kiesler and Sproull (1994) point out that a common organisational norm is that “an information outcome of work such as an idea, process, invention, document, or computer program that an employee creates or acquires at work or using organisational resources actually belong to the employer rather than the employee.”

On the other hand, knowledge is controlled at the individual level. The possible conflict arises when individual employees perceive knowledge as their’s (self ownership) rather than the organisation’s (organisational ownership) of knowledge.

For example, researchers (Fisher & Fisher, 1998; Tobin, 1998) have expressed concern that effective sharing of knowledge among individuals or teams may not take place in organisations. French and Raven (1959) identified knowledge (expertise) as a source of power, the disclosure of which might lead to erosion of individual power, thereby partly explaining an individual’s reluctance to share it with others. Szulanski (1996) identified lack of motivation of a knowledge...
source as an important impediment to the transfer of best practice within an organisation. Some of the reasons for the reluctance of a person to share knowledge, he argues, are: fear of loosing superiority arising due to ownership of that knowledge, perception of not being adequately rewarded for a knowledge sharing action and, the lack of time and resources that the individual has to effect such a transfer.

Thus unless the knowledge source develops a positive response to the question, “What’s in it for me?” Knowledge sharing behaviour is less likely to happen. Therefore, in order to increase the prospect of knowledge sharing by employees, and given the importance its in an organisation and the potential conflict presented earlier an understanding of the antecedents of knowledge sharing is critical for both scholars and practitioners who are interested in motivating their employees, knowledge workers to share their knowledge. The paper makes the following proposition:

\[ P1: \text{The higher the level of perception of individual ownership of knowledge the lower the level of knowledge sharing within the organisation} \]

3.2 Positive social interaction culture

In an organisation with a positive social interaction culture, both management and employees socialise and interact frequently with each other, with little regard to organisational status. Kelloway and Barling (2000) suggest some benefits of social interaction with respect to knowledge sharing may include: employees who are more knowledgeable about their colleagues’ potential for being knowledge sources, as well as employees who trust more colleagues and trust more completely, and who are willing to share knowledge with them as a result. The paper makes the following proposition:

\[ P2: \text{the existence of a strong relational ties and networks in an organisation has a positive effect on the organisations’ knowledge sharing} \]

3.3 Technology

The use of ‘knowledge repository’ or intranet/databases is commonplace among organisations that are interested in increasing knowledge sharing among their employees (Ragles, 1998). These data bases are seen advantageous in numerous ways. They represent an instantaneous way of contributing and communicating between employees, are effective for shy or busy employees and are impersonal in nature, to mention some advantages. The paper makes the following proposition:

\[ P3: \text{the existence of an effective information technology infrastructure in an organisation has a positive effect on the organisations’ knowledge sharing} \]

3.4 Demographics

There has been little work done on the impact of demographic variables on knowledge sharing. However, some demographic variables may have an effect on how employees choose to share their knowledge. For example, Organ and Rayan (1995) argued that employees with shorter tuners are more likely to share knowledge. Organ and Rayan (1995) also argued that gender may have an impact on the communication styles and hence, there is a possibility that it will have an effect on knowledge sharing. The paper makes the following proposition:

\[ P4: \text{demographic variables have an influence on knowledge} \]

3.5 Learning Orientation

Learning orientation affects the information that an organisation attends to, interprets, evaluates, and ultimately accepts or rejects (Argyris & Schon, 1978; Dixon, 1992; Hedberg, 1981). Sinkula, Baker and Noordewier (1997) described three organisational values routinely associated with the predisposition of the firm to learn. These values are: commitment to learning, open-mindedness, and shared vision. Companies that are committed to learning value the need to understand the cause and effects of their actions (Shaw & Perkins, 1991). If an organisation places little value on learning and sharing knowledge, little learning or sharing is likely to occur (Sackmann, 1991).

Galer and van der Heijden (1992) described a shared vision as ‘goal convergence.’ If the employees and management in an organisation have an understanding and an agreement on knowledge sharing as an important end/journey then it is more likely that it will take place. Divergent or conflicting assumptions undermine the ability of the members of the organisation to agree on the interpretation of knowledge of local market, as well as knowledge of government and culture and, thus, their ability to respond quickly to emerging trends or problems.

Finally, open-mindedness is linked to the notion of unlearning (Nystrom & Starbuck, 1984). When organisations proactively question long-held routines, assumptions, and beliefs, they are engaging in the practice of unlearning. The paper makes the following proposition:

\[ P5: \text{the higher the degree of learning orientation of an organisation the higher the level of knowledge sharing within the organisation} \]
3.6 Market Orientation

Martin and Grbac (2003) defined market orientation as the implementation of marketing activities designed to satisfy customer needs better than competitors are able to satisfy customer needs. Celuch, Kasouf and Peruvemba (2002) argued that market orientation typically focuses on three components: 1) customer focus, 2) competitor focus and 3) interfunctional coordination. Baker and Sinkula (1999) contended that market orientation has an operational focus on information gathering, information dissemination and the ability to behaviorally respond to what is received (Baker and Sinkula, 1999). Kohli and Jaworski (1990) define market orientation in terms of three dimensions; 1) The generation of market information about needs of customers and external environmental factors, 2) The dissemination of such information among organizational functions and 3) The development and implementation of strategies in response to the information. These elements include continuous and systematic information gathering regarding customers and competitors, cross-functional sharing of information and coordination of activities, and responsiveness to changing market needs (Martin and Grbac, 2003). The paper makes the following proposition:

\[ P6: \text{the higher the degree of market orientation of an organisation the higher the level of knowledge sharing within the organisation} \]

3.7 Rewards

Numerous studies argued that the presence of a reward system is critical for the success of knowledge sharing in an organisation. For example, Bartol (2002) examined the role of monetary rewards in encouraging knowledge sharing in organisations. Bartol (2002) examined four mechanisms of knowledge sharing and found a positive relationship between monetary rewards and knowledge sharing. Further, Bartol (2002) argued that the system of contributing knowledge to databases is the most amenable to rewards contingent on knowledge sharing behaviors because of opportunities for the reward allocator to measure the knowledge sharing behaviors. Kugel and Schostek (2004) examined the effect of monetary rewards on knowledge sharing in Simens, the German giant and concluded monetary rewards seemed to have an immediate effect on motivation to share knowledge. Nevertheless, the authors argued that the quality of the knowledge shared can be inferior, and the attitude that knowledge is a private and non collective good is enforced. The authors noted that once the rewards are withdrawn knowledge sharing will decrease. The paper makes the following proposition:

\[ P7: \text{the presence of a reward system in the organisation results in a higher level of knowledge sharing within the organisation} \]

### Table 1: Categories of antecedents of knowledge sharing

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<thead>
<tr>
<th>People infrastructure</th>
<th>Organisational infrastructure</th>
<th>Knowledge values</th>
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<tbody>
<tr>
<td><em>Perception of knowledge ownership</em></td>
<td><em>IT infrastructure/ Technology</em></td>
<td><em>Learning orientation</em></td>
</tr>
<tr>
<td><em>Relational ties or networks</em></td>
<td><em>Reward system</em></td>
<td><em>Market orientation</em></td>
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<td><em>Demographic variables</em></td>
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#### 4.0 CONCLUSION

This paper looks at how organisations can become more sophisticated at supporting knowledge sharing, by identifying antecedents of knowledge sharing. Despite an abundance of studies on knowledge sharing, this paper is different in two ways: first, the paper differentiates between three categories of antecedents of knowledge sharing: people infrastructure, organisational infrastructure and knowledge values. Secondly, the paper examines the relationship between perception of knowledge ownership and knowledge sharing in light of all other variables. The antecedents identified included: learning orientation, market orientation, reward systems, technology and social ties and networks. This paper should be seen as work in progress and represents the first stage of a major research project. In the second phase of the research a refined version of the model will be tested in technology parks in Australia and Malaysia.

#### REFERENCES


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