Knowledge Sharing and Trust in Organizations

Joanne McNeish* and Inder Jit Singh Mann**

This paper explores the role of trust in knowledge sharing in day-to-day operations within organizations. Trust in terms of interpersonal and inter-group relations in knowledge sharing situations within organizations is reviewed. It focuses on positive knowledge sharing and trust. Trust is determined to be one of the several antecedents to knowledge sharing as well as being integral to other variables that impact knowledge sharing. A model is proposed and suggestions for further research are made.

Keywords: Knowledge sharing, Knowledge transfer, Trust, Incentive, Competitive advantage, Codified knowledge, Non-codified knowledge, Group performance

Introduction

Knowledge Sharing and Trust are concepts that have been explored by many researchers. However, the literature does not provide a generally acceptable definition of either of them. Still, people seem to understand clearly when they trust someone and when knowledge has been shared. If we take the example of interviews by journalists, the concept of speaking 'on or off the record' is generally understood in North America. Here one can make out the role that trust plays in a relationship where knowledge is shared.

The journalist may be looking for different kinds of information such as where to look for the story, who the important players are, and how to analyze and evaluate the evidence collected. The person providing the information may not be ready to come out publicly with the story, but may have an interest in presenting the information to the public, or in 'doing a favor' that is expected to be repaid later. From the journalist's point of view, the published story may or may not directly reflect the knowledge provided by informant.

On the other hand, it is not so easy to position trust and knowledge sharing within an organization even when there is "accumulating evidence that trust has a number of important benefits for organizations and their members" (Kramer, 1999). It is essential at the same time, to work through a number of variables linked in a model to the factors considered to be 'success' by an organization. The difficulty in measuring trust is part of a larger problem of

^{*} Instructor, Sprott School of Business, Carleton University, 1125 Colonel By Drive, Ottawa, ON, K1S 5B6, Canada. E-mail: jmcneish@connect.carleton.ca

^{**} Research Associate, Sprott School of Business, Carleton University, 1125 Colonel By Drive, Ottawa, ON, K1S 5B6, Canada; and is the corresponding author. E-mail: ijsmann@connect.carleton.ca

holistically measuring different constructs in groups and organizations (Schien, 1996) by using objective measures (Grandori and Kogut, 2002; and Soo et al., 2002). Organizations, therefore, must look at measures such as revenue or profit, which are more easily measured, to determine the value of trust. It would seem logical that organizations would tend to have little interest in measuring factors that do not provide any link to success. There are similar difficulties in directly measuring the quantity or quality of knowledge sharing. However, it is possible to look at the proxies such as investment in knowledge warehouses, which demonstrates organizational commitment, and the degree to which employees codify the information and input into the warehouse. The existence and maintenance of such warehouses would suggest, at least, an investment in collecting and storing information. Whether that translates into knowledge is, of course, debatable (Kramer, 1999; and Soo et al., 2002).

This paper explores the role of trust in knowledge sharing in day-to-day operations within organizations. Given the lack of agreement on definitions for both concepts, working definitions are provided. Based on literature review, trust in terms of interpersonal and intergroup relations will be explored. The focus is on positive knowledge sharing (rather than negative knowledge sharing, such as rumors) and trust (not distrust). Trust is viewed as one of several antecedents to knowledge sharing but is also integral to other variables that impact knowledge sharing. A model is proposed and suggestions for further research are made.

Knowledge can either be treated as a raw material, which is a part of the process and is separate from the person, "capturing, organizing and retrieving of information", or integral to the person, "inextricably bound up with human cognition" (Thomas et al., 2001). Edgington et al. (2004) have characterized knowledge as "multidimensional, as well as context and socially dependent" and defined a knowledge unit as "a coarse set of information elements bound together by structure, assumptions, justification, and process." For the purpose of this paper, Edgington's definition will be used as it encompasses both the management of knowledge, and how it interacts with the person.

Knowledge transfer and knowledge sharing are often used interchangeably in the literature which might cause some confusion. Of the two, knowledge sharing is less well covered in the literature. Knowledge transfer is about the ability to take action (transfer) based on knowledge, knowledge sharing about the exchange of the knowledge between two people. Sharing and combining knowledge would seem to come before transfer.

"Knowledge transfer is the process through an organization or subunit is affected by the experience of another" (Baum and Rowley, 2002). "Knowledge transfer means more than the conveyance of information from person or organization to another but means that the recipient of knowledge understands the message well enough to take action" (Jensen and Meckling, 1996).

"Shared knowledge is an understanding and appreciation for the technologies and processes that affect their mutual performance. Appreciation is characterized by a sensitivity to the frames of reference and interpretations of the other group" (Nelson and Cooprider, 1996). It has also been conceptualized as "the willingness of individuals in an organization to share with others the knowledge they have acquired or created" (Gibbert and Krause, 2002). By sharing the knowledge a depository can be created which can be built upon by others (Goody, 1998).

There are a number of reasons why knowledge sharing is important to organizations. These include improvements to the "alignment to missions, vision and values, and strategy, joint team accountability, process focus, stronger awareness of customer and competition, a collaborative team environment, and decentralized decision making but consistent with corporate direction" (Tiwana, 2002). Knowledge sharing also reduces time to market new products through improved group processes (Cooper, 2001).

Knowledge sharing is also important to the individual. The individuals measure their value to the organization in terms of their ability to know the people who have the information, and their ability to interpret the information, as well as the timing of sharing that information. This makes them feel that they are making a positive contribution to the organization. Individuals share knowledge based on "individual benefits such as self-interest, and personal gain" (Constant *et al.*, 1994; and Tampoe, 1996).

Trust is a difficult concept to define. Some researchers have concluded that "the study of trust is problematic with respect to the definition of trust itself; lacks clarity in defining the relationship between risk and trust; and confuses antecedents and outcomes of trust" (Mayer et al., 1995; Geyskens et al., 1998; Rousseau et al., 1998; and Hardin, 2001). That being said, trust is used in this paper based on Mayer et al. (1995) definition of trust as the "willingness to be vulnerable to the actions of another party based on the expectation that the other will perform a particular act important to the truster, irrespective of the ability to monitor or control the other party."

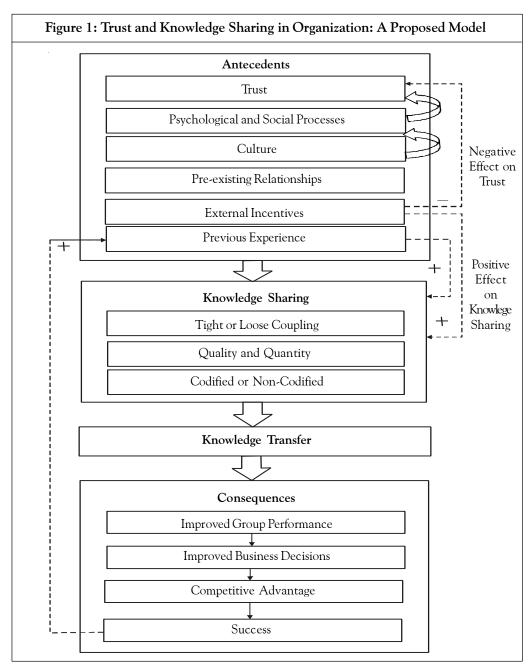
Proposed Model

The proposed model (Figure 1) is based on the literature review presented in this paper. The variables and linkages have been described in the discussion which follows.

Discussion of the Variables in the Proposed Model

Antecedents

Trust is one among several factors such as organizational culture, social processes, previous experience in knowledge sharing, and external incentives that supports knowledge sharing in an organization.



Trust

Trust is regarded as important in the sharing of knowledge (Davenport and Prusak, 1998). At a basic level, trust serves as a substitute for the ability to monitor or verify information. Trust has several roles in knowledge sharing, both as an antecedent and as a consequence of knowledge sharing. Within the context of a relationship, it operates to strengthen the relationship, and the relationship, in turn, provides more reasons to trust.

Trust operates between people. It is, however more difficult to demonstrate that it operates between groups and organizations even though it is required between groups and organizations because, as Baugh *et al.* (2001) commented, the "uncontrolled information disclosure may allow one's partner increased bargaining power in the relationship or possibly help to create a future competitor."

Are there structural elements that can substitute for trust? Certainly, structural assurances such as contracts, guarantees and recourses, social norms, legal and regulatory frameworks can act as antecedents to trust (Lewis and Weigert, 1985; Mayer *et al.*, 1995; Lewicki and Bunker, 1996; Rousseau *et al.*, 1998; Argandoña, 1999; McKnight *et al.*, 2002; Pavlou, 2002; and Grossman, 2004). In addition, technology can be used to improve trustworthiness by assuring compliance with regulations. At the same time, there is evidence that such systems can actually undermine trust and can make it difficult to determine whether or not trust exists (Kramer, 1999). Gallivan and Depledge (2003) explored this idea as part of their discussion of trust and control in inter-organizational systems and concluded that, increased control reduced trust.

Trust can influence knowledge sharing both directly, as well as indirectly through relationships and culture. Nelson and Cooprider (1996) empirically tested trust as an antecedent to knowledge sharing and described a causal relationship. They indicated that trust acts through shared knowledge to impact group performance. When trust exists, some researchers suggest that people are more willing to give useful knowledge (Zand, 1972). It seems as if they are "more willing to listen to, and absorb other's knowledge" (Mayer *et al.*, 1995). These effects were found at individual and organizational levels of analysis in a variety of organizational settings. In studies such as Dirks' (2000) study of sports teams, in which a variety of variables were controlled, trust was proportionally linked to the win.

It is important that groups within organizations are able to trust each other. One way that is accomplished is through the sharing of information based on transparency. Transparency has been defined as "the accessibility of information to stakeholders of institutions regarding matters that affect their interests" (Oliver, 2004). Open communication and information that is freely available are ways, in which trust is built (Anderson and Weitz, 1989; Anderson and Narus, 1990; Morgan and Hunt, 1994; Doney and Cannon, 1997; and Tapscott and Ticoll, 2003).

'Gossip' is a form of knowledge sharing and often reflects not what the speaker has to say but what "the listener wants to hear" (Kramer, 1999). As in the case of reputation, it can help to create a relationship, for example, of integrating new members into a group and the providers of the information as, "go betweens in new relationships enabling individuals to roll over their expectations from well-established relationships to others in which adequate knowledge or history is not yet available."

In organizational relationships, trust provides a way to accept knowledge in the absence of ways to verify its veracity. Some researchers have indicated that the presence of a prior relationship or experience gained over time is an antecedent to trust, while it can also be seen as a consequence of trust (Deutsch, 1958; Dawes, 1980; Hosmer, 1995; Mayer *et al.*, 1995;

Doney and Cannon, 1997; Rousseau *et al.*, 1998; Zaheer *et al.*, 1998; Argandoña, 1999; De Cremer and Van Vugt, 1999; Kramer, 1999; Singh and Sirdeshmukh, 2000; and Alesina and Ferrara, 2002). They comment that the consequence of inter-personal trust is improved relationships.

Trust can be directly related to various attitudes and behaviors, or to the quality of the relationship (Parasuraman *et al.*, 1988; Anderson and Weitz, 1989; and Anderson and Narus, 1990). Some researchers link trust to outcomes as diverse as knowledge sharing, improved group performance and increased revenue (Luhmann, 1979). Others noted that the direct behavioral links are weak and that the link is between trust and the length and quality relationship. They comment that it is the long term relationship that can "make a firm more competitive and ensure stable market shares" (Arrow, 1982; Doney and Cannon, 1997; Lau and Lee, 1999; Kennedy *et al.* 2001; and Garbarino and Lee, 2003).

"In addition, the trusting party does not have to engage extensively in activities such as monitoring the partner or building safeguards (through contracts) in the relationship (both costly processes). These benefits should build attachment and engender a desire to strengthen and continue the relationship" (Zaheer *et al.*, 1998).

That people seek and develop trusting relationships is not unexpected. In an organization however, many other interests and factors are operating that are different from those of the individual. The diplomatic relationships between nations provide a clear example of the need for mutual trust between individuals that is different from the needs of their respective governments. "Diplomats may develop warm and trusting interpersonal relationships with their counterparts while realizing that the ability of those diplomats to restrain the behavior of the governments they represent is limited" (Baugh *et al.*, 2001).

In another perspective, Jordan (2004) pointed out that people reported having trust in individuals, and when the actors were moved to new assignments, "trust was often lost and slow to be restored." When two companies are working together the loss of trust as a result of the change in personnel had a benefit in that "it reduced the risk that tacit knowledge would leak to partners" (Jordan, 2004).

Relationship

If people prefer to turn to other people rather than to documents for information (Levin and Cross, 2004) then it is easy to see how relationship connects to knowledge sharing. Burt (1992) found relationships important for acquiring information, learning how to do work (Lave and Wenger, 1991), and solving complex problems.

In work done by Nahapiet and Ghoshal (1998), face-to-face contact was the most important in knowledge sharing with two-thirds of knowledge coming from face to face or phone conversations and one-third from documents or databases. That being said, some knowledge can be easily gained from documents whereas other types of information requires

interaction" (Mintzberg 1973). This idea will be explored later in this paper in the section dealing with codified and non-codified knowledge.

The notion of a relationship is that it is "two-way, that it should exist over time, and provides enhanced benefits to both parties" (Rousseau *et al.*, 1998; and Zaheer *et al.*, 1998). A relationship that is established through repeated contacts and with consistent, positive results creates a long-term commitment, cooperation, and the ability to take risk, thereby creating trust (Rotter, 1971; Rempel *et al.*, 1985; and Doney and Cannon, 1997).

In general, groups with strong relationships based on trust, "tend to display a more flexible and open structure characterized by less formal and standardized procedures, greater decentralization of decision-making, and decreased impersonality of relationships" (Lewis and Weigert, 1985; and Aldrich and Fiol, 1994), all of which supports increased knowledge sharing.

Culture

Alvesson (2002) provides background context in terms of describing the importance of culture in many aspects of the organization. He focuses on cultural change and the need for knowledge sharing as part of that change and links culture to beliefs, values and ideas of groups of people. Myers (1996) comments that "if knowledge is to provide a company with sustainable competitive advantage, such knowledge must be independent from any given individual and must have been captured by an organization's systems, processes, products, rules and culture." That process takes place through knowledge sharing. Some researchers are of the opinion that culture is important in knowledge sharing (Chow *et al.*, 2000; and Bock *et al.*, 2005) while others have positioned it as an absolute requirement, "organizational culture is crucial for facilitating knowledge sharing" (Wang, 2004).

Organizational design can be said to be one of the visible manifestations of the organizational culture. Mayer *et al.* (1995) suggested that the impact of organizational structure "on the division of labor, allocation of decision rights, choice of coordinating mechanisms, delineation of organizational boundaries, and networks of information relationships impacts the way knowledge is managed and shared."

Trust is reflected in the control, coordination systems and the use of incentives to direct behavior. With higher levels of trust, there are typically fewer controls, and ultimately lower transaction costs incurred by the organization. Managers must evaluate the employee in terms of "capabilities and potential to exercise responsible self-direction and self-control" (Bradach and Eccles, 1989). Over and above the evaluation of the employee is the need to understand whether the organization has a culture that is supportive to the employee in these areas (Chow et al., 2000; and Shockley-Zalabak et al., 2000). Culture is also communicated through the leaders of the organization and their actions will indicate to employees what behavior is rewarded by the organization (Goman, 2002). Activities that depend on knowledge sharing such as auditing, and open budget preparation, create an atmosphere of openness that increases the level of trust in an organization (Espejo, 2001).

One other aspect that is important in understanding the impact of culture of the organization on the individuals is that there are possibilities of negative outcomes for the individual in some types of knowledge sharing (Truch, 2001). Researchers have commented on the fact that, "one of the barriers to effective knowledge sharing is the basic insecurity and fear that prevails in many organizations. Knowledge is source of employees' power and only guarantee of employment. Organizations need to create right environment and incentives to persuade individuals to share what they know" (Constant *et al.*, 1994; Das and Teng, 1998; Huber, 2001; and Bock *et al.*, 2005).

Psychological and Social Processes

It is expected that social and psychological processes would impact knowledge sharing because the activity in organizations is done in and between groups (Triandis *et al.*, 1988). Psychosocial processes are said to encompass "strong interpersonal connections and networks, social cohesion and cooperative norms. It includes the notions of "fairness, innovativeness and affiliation" (Bock *et al.*, 2000). They argue that "knowledge sharing is best done based on values of the team—strong interpersonal connections, social cohesion and cooperative norms."

Cohesive groups have been linked to greater levels of trust (Myers, 1996) and to greater levels of group performance (Levin and Cross, 2004). In addition, shared common experiences and group identity are considered as antecedents to trust (Stangor, 2004). Stangor (2004) suggests that "a social norm is a way of thinking, feeling, or behaving that is perceived by group members as appropriate" and that "group cohesion is the emotional attachment that the group members have with the members of the group." Empirical research has shown that the three conditions have shown to improve knowledge sharing within groups in organizations, "appreciation of teamwork, individual expression and operating principles" (Kasl *et al.*, 1997) and these have been extended to the organization itself (Nonaka and Takeuchi, 1995).

Another view of knowledge sharing is the need for interdependence where "the interests of one party cannot be achieved without reliance upon another." Trust can help in this situation (Gambetta, 1988; Anderson and Narus, 1990; and Morgan and Hunt, 1994; and Fukuyama, 1995).

Trust is also suggested as a way to avoid opportunistic behavior by those who would exploit these relationships for the purpose of using knowledge that they possess, or have gleaned from others as a way of gaining power (Williamson, 1981). Groups can learn as much from knowledge shared about each other's failures as they can by learning about success. This requires a climate of trust that this knowledge will not be exploited by others as weakness (DiBella and Nevis, 1998).

Trust assists in the creation of reciprocity where reciprocity is defined as a "system of diffused social norms is created, leading to mutual obligation and expectations of equitable treatment" (Zand, 1972; Fox, 1974; McAllister, 1995; Lewicki and Bunker, 1996; Kramer,

1999; and Garbarino and Lee, 2003). Being a member of a group provides a way to have some level of trust that obviates the need for "each person having to have the experience or personal knowledge, and the cost of negotiating reciprocity" (Pillutla *et al.*, 2003). This can also be done through the knowledge of the reputation of a person. Reputation can be defined as a "general estimate of a person with respect to character or other qualities and organization with regard to some aspect of its activities" (Misztal, 1996; Rousseau *et al.*, 1998; Karake-Shalhoub, 2002; and McKnight *et al.*, 2003). Other substitutes for a direct relationship include endorsements, or testimonials from trusted third parties.

Trust has been shown to "increase the willingness to undertake shared activity" (Gambetta, 1988; Anderson and Narus, 1990; Moorman et al., 1993; Morgan and Hunt, 1994; Fukuyama, 1995; Mayer et al., 1995; Smith et al. 1995; Sako, 1996; Nahapiet and Ghoshal, 1998; Sako and Helper, 1998; Volery and Mensik, 1998; Zaheer et al., 1998; and Ridings et al., 2002).

Previous Experience in Knowledge Sharing

Galbraith (1990), through empirical research in specific organizational environments, demonstrated that previous experience of knowledge sharing had a positive effect. Feedback on the experience of sharing knowledge from others (Bock *et al.*, 2005) also improved the likelihood of knowledge sharing. Therefore, it would be prudent to take this factor into account.

External Incentives

The use of incentives to improve knowledge sharing is debated in the literature. Some research indicates that it is effective (Holton *et al.*, 1997) while other research suggests that it has a negative impact on improving knowledge sharing (Pfeffer and Langton, 1993; and Bock *et al.*, 2005). Davenport and Prusak (1998) suggest that knowledge sharing can be encouraged through incentives such as performance evaluations, feedback, goal setting, ongoing measurement and monetary rewards. On closer examination, the issue can be better understood if the impact of incentives on knowledge sharing is isolated from its impact on trust.

Incentives appear to work better in situations where the knowledge can be codified and the information verified separately from the person conveying it. This is part of the reason of the success of organizations that make use of the Total Quality Management process (Walton, 2001).

There is a signal sent by the organization that makes use of incentives (Holman *et al.*, 2003). Earlier in this paper there was a comment made that the amount and existence of trust is reflected in the use of incentives to direct behavior. There is a cost incurred in monitoring performance, and rewarding or punishing behavior by incentives. Higher levels of trust are associated with fewer controls, and therefore lower transaction costs are incurred by the organization (Lau and Lee, 1999; and De Wulf and Odekerken-Schroder, 2003).

Nooteboom (2000), an important writer in the area of trust, risk and opportunistic behavior, creates linkages between knowledge that people have, and the reasons for sharing, exchanging or transferring that information. He suggests that the economic argument of incentives was insufficient to understand interactions between people, groups or organizations. He commented that the "shared norms and trust-based dealings" were preferable to structural assurances. It is expected that trust is necessary for moving forward in "situations in which the risk one takes depends on the performance of another actor" (Coleman, 1988) and if incentives are provided then, "the vulnerability to exploitation is removed which gives trust its very meaning."

One specific and important risk in interactions is opportunistic behavior defined as "self-seeking behavior with guile" (Williamson, 1981). Trust is one way to reduce the risk of opportunistic behavior or it can be reduced by providing incentives. Others have argued against the use of incentives because, "trust derived from incentives is not trust but cooperation" (Williamson, 1981).

Another type of incentive or clarity can be provided in the form of strong role definition. 'Role' trust has been described in the literature as the trust ascribed to the particular role in the organization that the individual occupies rather than confidence in the capabilities and intentions of the specific individual (Kramer, 1999). The decision to trust on the basis of 'role' trust is made depending on the judgment of the organization in placing that individual in the role (McAllister, 1995).

Tight or Loose Coupling

Cooper (2001) among others, made the argument for frequent interaction between individuals in a group (tight coupling) and between groups as a way to promote effective knowledge sharing in new products. Others, for example, Granovetter (1973) and Hansen (1999) have suggested that frequent interaction does not promote the development of new ideas and that interaction when ties are weakest, in fact, results in more effective knowledge sharing.

Loosely coupled organizational forms like the 'boundaryless company' as described by Ashkenas *et al.* (2002) has a much higher requirement for trust than a bureaucratic company, operating under the rational system. The proponents of the rational system would suggest that systematic and concise documentation and implementation of the procedures to ensure that the knowledge was documented consistently and made available according to rules that had been communicated, would result in the achievement of the task and that the requirement for trust in employees is less critical to the behavior required (Scott, 2003). This would be particularly applicable to explicit knowledge.

Codified and Non-Codified Information

Setting aside the debate in the literature as to whether knowledge can be codified (Soo *et al.*, 2002), it is generally accepted that there are two types of knowledge, explicit (codified in the sense that it can be produced adequately in documents) and tacit

(non-codified that is typically acquired through experience) which must be managed by the organization (Hansen, 1999; and Daft, 2004).

The degree of trust required is important depending on the type of knowledge that is being shared. In the situation of sharing explicit knowledge, which can easily be handled through documents, databases and written instructions, trust is less important. Surprisingly, people may even prefer to share this type of information through in-person contact. The reason why explicit knowledge can be shared without much dependence on trust is that it can be understood apart from the source and can be independently verified. Explicit knowledge "can be codified and transmitted in a systematic and formal language, developed through explication of tacit understanding and interpretation of information, stored in hard copy and electronic documents" (Nahapiet and Ghoshal, 1998).

Tacit knowledge is seen as personal knowledge, based on individual experience and values and therefore not as easily transmitted" (Nonaka and Takeuchi, 1995). It is in the area of tacit knowledge that trust might be seen to be particularly important. Tacit knowledge is "personal, context specific, difficult to formalize, record or articulate, developed through human experience, stored in heads of people, converted to explicit through externalization that is often driven by metaphors and analogy, needs a rich communication medium to be transferred, most often experience" (Daft, 2004).

The transfer of tacit knowledge is more difficult and takes time to learn and explain (Zander and Kogut, 1995). This has been documented in particular in new product development process (Hansen, 1999). Tacit knowledge includes "insights, intuitions and beliefs that are tightly intertwined with the experience of the knowledge source" (Nonaka and Takeuchi, 1995).

Technology is less effective for the sharing of tacit knowledge. There are three major constraints on the use of information technology. These are "the embeddedness of knowledge in social networks, the importance of face to face interaction for knowledge exchange and the importance of informal settings for knowledge creation" and it has been found that "systems tend to reinforce rather than change the communication patterns that exist among existing social networks" (Holman *et al.*, 2003). Nahapiet and Ghoshal (1998) commented on the fact that the "the availability of electronic knowledge exchange does not automatically induce a willingness to share information and build new intellectual capital."

Consequences of Knowledge Sharing

Knowledge sharing can be linked to knowledge transfer, and through that to improved group processes and an improvement in business decisions. Better decision making leads to a success that can be measured such as increased sales and profit, and reduced transaction costs within organizations.

Improved Group/Organization Performance

Improved group and organization performance facilitates decision making (Volery and Mensik, 1998) and increases the focus on running the business (Tapp, 2002). When groups

are willing to partake in shared activity, for example, to provide information to each other, cooperation between individuals in a group or organization improves (Gambetta, 1988; Fukuyama, 1995; Sako, 1996; Nahapiet and Ghoshal, 1998; Sako and Helper, 1998; and Ridings *et al.*, 2002).

Trust can assist in improving group or organization performance, as well. Kramer (1999) notes that trust "increases spontaneous sociability among organizational members" and "appropriate forms of deference to organizational authorities." Trust also reduces opportunism (Morgan and Hunt, 1994; Lewicki and Bunker, 1996; Zaheer et al., 1998; Swan et al., 1999; and Gainey and Klass, 2003). The result of knowledge sharing in a trusting relationship is that there is typically a reduction in complexity particularly around legal and regulatory structures, resulting in a more adaptive, efficient and responsive organization (Luhmann, 1979; Williamson, 1981; Arrow, 1982; Smith et al., 1995; McAllister, 1995; Warah, 1998; Zaheer et al., 1998; Espejo, 2001; and Wicks and Berman, 2004).

The individuals or group within the organization can "focus on the long-term benefits of the relationship, thus enhancing competitiveness and reducing transaction costs" (Ganesan, 1994; Doney and Cannon, 1997; Kennedy *et al.*, 2001; and Garbarino and Lee, 2003). Soo *et al.* (2002) suggested that the outcome of knowledge sharing in concert with other variables is "greater output, either in terms of new products or services or better operational performance."

There is empirical evidence to suggest that improved group processes also impact knowledge sharing particularly in the circumstance of the sharing of best practices, and new product development as well as improving organizational performance (Reagans and McEvility, 2003).

Competitive Advantage

Enhanced competitive advantage leading to faster financial development, stronger firm performance (Zaheer *et al.*, 1998; Pavlou, 2002; Tapp, 2002; and Yoon, 2002) from knowledge sharing has been documented by researchers (Barney and Hansen, 1994; Sako and Helper, 1998; and Chow *et al.*, 2000). For example, improvement in success from the reduction in the number of days to new product launch has been well-explored (Cooper, 2001). The consequences for the employee such as facilitated decision making, confidence in the organization and satisfaction have also been linked to competitive advantage for the organization (Anderson and Narus, 1990; and Geyskens *et al.*, 1998).

Discussion

The interaction between trust and knowledge sharing is particularly complex in an organizational setting. The proposed model presents the possible relationship between a number of antecedents (trust, socio-psychological processes, cuture, pre-existing relationships, external incentives and previous experience) and knowledge sharing. Knowledge sharing has a path through knowledge transfer to consequences including improved group performance, business decisions, competitive advantage and financial success.

The variables as proposed in the model have been tested individually. It is hypothesized that a better understanding of the relationship between trust and knowledge sharing could be found by testing the model with Structural Equation Modeling (SEM) analysis techniques. SEM provides simultaneous evaluation of variables in a model.

Measures to test knowledge sharing in the organization should include objective quantitative measures as well as surveys with employees. Knowledge sharing could be measured through the existence of information management systems and employee use of the systems. Employee use of these systems, for example, could be measured by (1) the number of times the system is accessed; (2) currency of the information in the system; (3) time spent by the employee interacting with the system; and (4) the amount and quality of the data in the system used to create rationale for decision-making.

Conclusion

The objective of this paper is to review the literature on trust and knowledge sharing and to arrive at a preliminary model based on the study. Accordingly, a model has been proposed to further study the role of trust in knowledge sharing in organizations. This article will be valuable to the academics as, based on literature review, it brings out the important factors which affect knowledge sharing and thereby knowledge transfer. The model would enable further empirical research in the area. The paper will be valuable to the practitioners as it provides a basis of understanding of issues in knowledge sharing in organizations. This is one of the critical issues for achieving success in today's knowledge-based organizations.