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ABSTRACT

This study proposes and empirically tests a conceptual model of knowledge sharing in a team-based environment. Relationships among people in organizations play a significant role in the transfer of knowledge. Using social psychology as our theoretical frame of reference, we propose that empathy and helping behaviors lead to enhanced knowledge sharing. A written survey was developed and piloted to test these two enabling conditions. Our data show that both result in higher levels of transacting behaviors in which knowledge is shared.

Keywords
Knowledge sharing, empathy, helping behaviors

Introduction

The purpose of this study is to conduct a preliminary empirical test of the proposed framework using empathy and helping behaviors of team members as antecedents of knowledge sharing behavior. The framework is based on the assumption that willingness to share knowledge leads to the success of knowledge management initiatives (Jarvenpaa et al. 1998). The ability to facilitate the sharing and utilization of knowledge is critical for team-based effectiveness (Nonaka and Takeuchi 1995, Srivastava, Bartol and Locke 2006). Scholars have approached the subject of knowledge sharing from different angles. Some have used concepts from social motivation theory, such as trust, to help explain knowledge transfer (Jarvenpaa et al. 1998), while others have relied on other theoretical foundations, such as collective action (von Hippel and von Krogh 2003). Regardless of the perspective, however, researchers agree that successful teams identify and implement practices that encourage knowledge sharing. Our contribution is to increase the understanding of knowledge sharing in the team-based environment, not only to help academics understand the relationship between two key enabling attributes (empathy and help) and team-based knowledge sharing, but also to assist managers in their efforts to promoting knowledge sharing. This paper is structured as follows: theoretical background precedes methodology development and results, followed by the discussion of implications and future directions for research.

Theoretical Background and Hypotheses Development

Knowledge Sharing in the Team Environment

The organization serves as a knowledge-integrating institution, assimilating the knowledge of its members during the process of producing goods and services (Grant 1996a). Knowledge integration can occur in organizations through processes of sharing of explicit and implicit knowledge (Grant 1996b). Organizational structure (formal vs. informal) will determine the way people relate to each other and relationships among people in organizations will, in turn, play a significant role in knowledge sharing (Hoegl et al. 2003). Since most organizations today use a team-based structure (Kirkman and Shapiro 1997), investigating knowledge sharing at that level would be important.

Knowledge sharing at the team-level has been defined as a process in which members share "task-relevant ideas, information and suggestions with each other" (Srivastava and Bartol 2006). At its core, the management of team-based knowledge has to do with how members use information to solve problems. No single individual can carry out all the activities necessary to produce tangible output in the collective work process. This process can be fulfilled only by combining individuals with different and complementary skills and fostering cooperation among them (Grant 1996b). The transfer and integration of individuals' knowledge can lead to the creation of collective knowledge (Grant 1996a). This type of knowledge encompasses not only acquisition of diverse interpretations but also the ability to share common understanding – "only individuals with a certain level of shared knowledge can truly exchange knowledge" (Alavi and Leidner 2001) – means that they have to "speak the same language" or there would be no foundation for knowledge transfer.

The literature points to a diversity of reasons why individuals may not engage in a team-based knowledge sharing. For example, the reluctance to share knowledge may be the result of inadequate job security (Pfeffer and Sutton 1999). The study of incentive systems in the organizational behavior literature points to the lack of encouragement in the form of group incentives (DeMatteo et al. 1999). That is to say, inadequate reward and task structures can negatively influence knowledge sharing and team performance. In social dilemma theory, where shared knowledge is treated as a common asset (Cabrera and Cabrera 2002), knowledge sharing can be subject to: 1) abuse in the form of free-riding, where persons who do not contribute, take advantage of the collective knowledge and/or 2) loss of power or position, when contributors incur significant costs without getting anything in return.

In this research, we take a social psychology perspective, and argue that team members need to develop respect for each other and be truly committed to achieving the common goal. In other words, true collaboration and cooperation requires more than a mere belonging to a team or assignment to a project. It requires creation of strong social ties among team members that are characterized by warm, caring relationships. Past research has shown that the team-based environment significantly influences knowledge sharing (Hoegl et al. 2003). Von Krogh (1998) proposed that establishing a caring environment is a noteworthy determinant of interpersonal relationships in organizations. This environment means that someone is concerned not only for the well-being of others, but also wants to help them grow and actualize their potential (Mayeroff 1971).
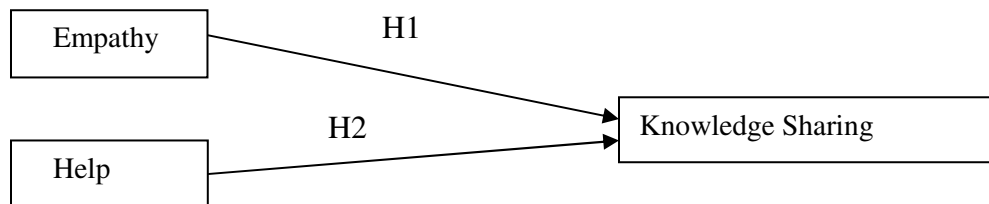
Figure 1. Research Model.

Our research model (shown in Figure 1 above) proposes that empathy and help are significantly related to knowledge sharing in a team environment. Empathy is an ability to put oneself in another's shoes. Help is **"**an action response to a perceived need of another" (Lee and Murnighan 2001).While these enabling conditions have been discussed theoretically, there is paucity of research empirically validating their relationship with knowledge sharing. These constructs are discussed in more detail below.

Empathy

In the broadest sense, empathy refers to the reactions of one individual to the observed experiences of another (Davis 1996) or the ability to put oneself in another's place. There are two types of response: a cognitive, intellectual reaction, an ability to understand another person's perspective (Stephan and Finlay 1999) and a more visceral, "emotional reaction to the other characterized by such feelings as compassion, tenderness, soft-heartedness and sympathy" (Cialdini et al. 1997). Relating to others on a cognitive and emotional level, i.e. understanding their thinking patterns and their particular situation, will lead to more openness in sharing their ideas and feelings. Taking the perspective of another may lead to the possibility of "incorporating the self within the boundaries of the other" (Cialdini et al. 1997) whereas in close relationships, the other person becomes an extension of self (Aron et al. 1991) and people exhibit a genuine concern for one another's welfare (Clark and Reis 1988). If people are truly concerned for others' welfare, then they would be less likely to withhold knowledge that

may potentially benefit others. In other words, caring about others may result in decreasing of tendency to "hoard" knowledge for gaining personal advantage. Hence, empathy would lead to knowledge sharing with others, in order to promote their welfare.

Hypothesis 1: Empathy leads to increased knowledge sharing in teams.

Help

Having identified with the person in need, one will feel not only an empathic emotion but also an urge to do something, to help (Batson 1995). Help is being keenly aware of another's needs and proactively making oneself available for help. Desire to help however, should not lead to "over-helping," since it may imply that a person is incompetent or unable to complete the task by himself. Closer relationships lead to increased helping behavior mainly for four reasons (Batson 1995): 1) egoistic – helping the other produces benefits for the self, such as positive affect and feelings of self-efficacy, and avoids personal distress that might be created by letting the other suffer and sets the stage for future reciprocity (Cialdini et al. 1997) in which case the costs of helping are taken into consideration (Kahneman and Tversky 1979); 2) altruistic – because friends generate greater concern for one another's welfare, people may help because of the desire to promote and protect the other's well-being; 3) collective or mutual gain – helping the other maximizes joint or group gain, which is a valued objective in close relationships; and 4) principle – because friends have a duty or obligation to help one another, aid is offered as a matter of principle. In light of cognitive dissonance theory (Festinger 1957), individuals will be more motivated to help when they are reminded of times they failed to help similar persons (Harmon-Jones et al. 2003). Team members must be willing to share their knowledge in order to help other members of the team. As Von Krogh (1998) states, the lack of this willingness is one of the fundamental problems organizations face when promoting knowledge sharing practices. Restructuring organizational incentive systems to reward knowledge sharing has been proposed as one of the solutions (O'Dell and Grayson 1998). However, that approach focuses on the extrinsic motivation and may not always produce desirable results (Bock et al. 2005). According to organizational behavior theory (Adler 2002), a more effective approach could emphasize intrinsic motivation, in this case, the willingness to help by sharing one's knowledge.

Hypothesis 2: Help leads to increased knowledge sharing in teams.

METHODOLOGY

Subjects

The pilot study was conducted at a relatively large southwestern university. The sample consisted of undergraduate students involved in project teams in an information systems design class. These students were jointly accountable to each other by means of a common project grade, therefore had had a stake in the outcomes and were encouraged to put forth effort.

Measures

The constructs in this study were measured using a five-point Likert scale based on the existing literature. A panel of experts was asked to examine the wording of each scale item and comment on its readability and content validity. The instrument measured team member perceptions of their teammates and activities involved in the project. Responses for items ranged from strongly disagree to strongly agree on a Likert-type scale. Panel comments were incorporated in the item revision, leading to considerable improvement in scale reliability and validity for the data collected during the pilot study.

Reliability and Validity of the Instrument

The most common method of estimating the reliability of an instrument is through the use of Cronbach's alpha (Zmud and Boynton 1991). Cronbach's alphas for all constructs in the study were above 0.76, reflecting high internal consistency or homogeneity of the items comprising each construct (Straub 1989).

Table 1 Reliability Statistics

Construct	Cronbach's Alpha
Help (4 item scale) 1. Members of the team could turn to other teammates for advice if they were having problems 2. Members of the team helped other teammates to understand their ideas 3. My teammates helped me to understand their ideas 4. My teammates helped me to develop my ideas	0.93
Empathy (3 item scale) 1. Members of the team can put themselves in someone else's shoes 2. We are considerate of each other's feelings 3. We are concerned about each other's well-being	0.89
Knowledge Sharing (3 item scale) 1. Individuals can learn a lot from each other in group-related activities 2. Members of the team like to discuss ideas with each other 3. Team members exchange lots of thoughts and opinions	0.77

Construct validity is whether the scale measures what it purports to measure. We assessed construct validity through factor analysis (Zmud and Boynton, 1991). An iterated principal axes factor analysis with an orthogonal varimax rotation was conducted. Items that cross-loaded on multiple factors were eliminated. Table 2 below shows that the loadings of the remaining items were all above 0.6 (Hair et al. 1998).

Table 2. Rotated Component Matrix

	1	2	3
Help1	.848		
Help2	.842		
Help3	.815		
Help4	.803		
Empathy1		.871	
Empathy2		.832	
Empathy3		.802	
KS1			.849
KS2			.652
KS3			.636

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 4 iterations.

RESULTS

To test the model we carried out multiple regression analysis. Results of the pilot study were significant. The overall explanatory power of the model was moderate as reflected in its $R^2 = 46.2\%$. Hypothesis 1, which stated that empathy leads to increased knowledge sharing in teams was supported ($p < .05$). Hypothesis 2, which stated that help leads to team-based knowledge sharing in teams was also significant at the 5% level.

Table 3 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	Durbin Watson
.680(a)	.462	.438	.490	.462	18.918	2.129

a) Predictors: (Constant), Empathy, Help
b) Dependent Variable: Knowledge Sharing

Table 4 Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Significance		
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.564	.196		2.881	.006		
Help	.377	.113	.461	3.343	.002	.644	1.554
Empathy	.233	.109	.296	2.147	.037	.644	1.554

Dependent Variable: Knowledge Sharing

DISCUSSION

Our pilot study has provided initial empirical evidence that the enabling conditions of empathy and helping behaviors may serve as antecedents to team-based knowledge sharing. If a team member has genuine concern for other team members and can understand the others' motivations, he or she will be more likely to share knowledge. From a practical perspective there are ways that project managers can either promote or reduce the effect of these enabling conditions.

The team-based literature has indicated that teams go through stages of forming, storming, norming, and performing (Bettenhausen 1991). Activities that help the team form and solidify can promote healthy organizational relationships and can cause members to be more empathetic of one another. For example, social events or orientation sessions in which team members can exchange personal information and explore common interests may be of value (Zarraga and Bonache 2003). These informal communication opportunities can encourage the sharing of both explicit and implicit knowledge.

Previous research has also found that training is essential in developing the capacity of team members to cooperate (Zarraga and Bonache 2003). Teaching members how to provide constructive feedback which will truly help the others is essential. This type of training can also stress the importance of knowledge sharing and strengthen the team-based climate for knowledge exchange.

Highly individualistic incentive systems may countermand efforts to promote empathetic and helping behaviors that lead to interdependent and productive relationships. Recently research has indicated that group-based incentives can enhance cooperation between employees and lead to significant productivity gains (Siemsen et al. 2007). However, intense competition between team members can cause individuals to care more about his or her career or outcomes than the well-being of the group. Also, if the team makes the member feel foolish for seeking knowledge from other team members, then knowledge sharing can be hampered. By being empathetic, and promoting an environment in which "no question is dumb because no one has complete knowledge" can lead to a free flow of ideas. In addition, tolerating inequitable treatment in which team member can "steal" others ideas and take credit for them as their own, can minimize the degree to which

members are willing to help others. Consequently, individuals will want to hoard knowledge. Empathetic and helping behaviors exist when team members can share useful knowledge and feel good about doing so.

Future directions

This research is valuable because we have created scales for two important socio-psychological variables – empathy and help – and tested their relationship with knowledge sharing. However, there is much yet to be done. The intercorrelations between empathy and help were somewhat high. This is not surprising because before an urge to help arises, one may feel empathy for another. It is possible that "empathy" construct can serve as an antecedent to "help" construct, so future research needs to further explore this relationship via structural equation modeling. The small sample size (N=47) of this pilot study precluded further statistical analysis of this model.

Table 5 Correlations

		Knowledge Sharing	Help	Empathy
Pearson Correlation	Knowledge Sharing	1.000	.637	.571
	Help	.637	1.000	.597
	Empathy	.571	.597	1.000

Future research should also investigate the impact of team diversity (gender, age, race, etc.) on empathy and helping behaviors. While the team literature indicates that diversity is positive from an overall performance perspective (Kilduff, Angelman, & Mehra 2000), the effect diversity has on knowledge sharing or other important enabling attributes is unknown.

CONCLUSION

Knowledge integration may occur in teams through processes involving the sharing of explicit or implicit knowledge. Relationships among people in teams play a significant role in the creation of and transfer of knowledge. The way people relate to each other will depend on the enabling behaviors that are deemed valuable in the team-based culture. Norms and practices determine who is expected to control what knowledge, as well as who must share it, and who can hoard it. When norms and practices promote collaboration among team members, specifically empathy and helping behaviors, interactions are more likely to lead to caring behaviors that refer to the general propensity of people anticipate benefits not only for themselves but also for their co-workers and organization. That kind of "care" facilitates knowledge sharing of all types. This conclusion is in line with existing theory that views pro-social behaviors of knowledge sharing to be above and beyond those prescribed by job descriptions and voluntary in nature (Jarvenpaa and Staples 2001).

The focus of knowledge sharing efforts in this paper has been on improving transacting behaviors at the team level. Hence, finding and understanding factors that might contribute to an environment suitable for sharing knowledge will prove important for academicians. On the practitioner side, managers need prescriptive frameworks to characterize the links between enabling behaviors and knowledge, so they can design initiatives appropriate for the support of their knowledge management objectives.

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