Trust and tacit knowledge sharing and use

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Abstract

Purpose – This study aims to explore the impact of affect-based and cognition-based trust of co-workers on the willingness of professionals to share and use tacit knowledge.

Design/methodology/approach – The relationships were examined through data provided by a sample of 202 professionals and managers in world headquarters of an international organization.

Findings – The levels of both types of trust influence the extent to which staff members are willing to share and use tacit knowledge. Affect-based trust has a significantly greater effect on the willingness to share tacit knowledge, while cognition-based trust plays a greater role in willingness to use tacit knowledge.

Research limitations/implications – The data are cross-sectional and were also collected in one organization. Future studies should consider longitudinal designs across multiple organizations. Alternatively, archival information could be used to measure actual tacit knowledge sharing and use among co-workers.

Practical implications – The results indicate that both distinct types of trust are involved in decisions affecting transfer and use of tacit knowledge. This suggests that knowledge management efforts may need to include a finer grained view of the nature of the social networks impacting the knowledge transfer and management process.

Originality/value – Previous studies have not examined the differential effects of both affect-based and cognition-based trust on employee willingness to share and use tacit knowledge.

Keywords Trust, Knowledge management

Paper type Research paper

Introduction

There is broad recognition that effective management of knowledge is essential to the success of modern firms. Organizational leaders have reacted to this need by spending nearly a trillion dollars annually to analyze, store, and retrieve knowledge (Lohr, 2002). However, investments in technology primarily affect an organization’s ability to accumulate and recall knowledge that has been made explicit through codification or writing in the form of documents, reports, “white papers”, catalogues, presentations, patents, formulas, etc. Other knowledge in organizations is tacit in nature. This knowledge is highly personal and difficult – if not impossible – to reduce to writing. If expressed at all, it frequently takes the form of analogies, metaphors, stories, or personal strategies that reveal insight into the “how and why” underlying an employee’s approach to tasks or problems (Blackler, 1995; Blumentritt and Johnston, 1999; Choo, 1998, 2000; Collins, 1993; Narasimha, 2000; Nonaka and Takeuchi, 1995; Zack, 1999a, b). In some professional organizations, much of the most useful knowledge may be tacit in nature. Although critical to organizational decisions, tacit knowledge is difficult to measure and has been infrequently studied (Brockmann and Anthony, 1998). While technology may facilitate the storage of explicit knowledge, tacit knowledge resides only in the minds of people and its availability and use depends upon individual decisions and relationships (Cross and Baird, 2000; Fahey and Prusak, 1998; Hinds and Pfeffer, 2001; Lucas, 2005).
The willingness of organizational members to share and use tacit knowledge may depend on the extent that co-workers are trusted recipients and sources (Adler, 2002; De Long and Fahey, 2000; Gruber, 2000; Locke, 1999; Lucas, 2005; McAllister, 1995; Nahapiet and Ghoshal, 1998; Scott, 2000; Tsai and Ghoshal, 1998). For example, Lucas (2005) found that interpersonal trust between co-workers and reputation of co-workers had separate effects on employee experiences in transferring knowledge within an organization. In a related study, Smedlund (2008) has suggested that tacit knowledge transfer (sharing and use) is facilitated by a social network within organizations characterized by ties based on both interpersonal relationships and long-standing working relationships where reciprocity among co-workers is the norm.

Some previous studies have found that trust has a multi-faceted nature (Dasgupta, 1988; Dasgupta and Serageldin, 2000; Lane, 1998; Lewicki and Bunker, 1996; Lewis and Weigert, 1985; McAllister, 1995). McAllister (1995) developed and tested empirically the distinctiveness of two forms of trust:

1. affect-based trust, which is grounded in mutual care and concern between workers; and
2. cognition-based trust, which is grounded in co-worker reliability and competence.

Previous studies have examined the effects of alternative types of trust on general knowledge transfer (Lucas, 2005) and organizational citizenship behaviors (McAllister, 1995). However, none has examined the differential effects of both affect-based and cognition-based trust on employee willingness to share and use tacit knowledge (Adler, 2002; Johannessen et al., 2001; De Long and Fahey, 2000; Gruber, 2000; Locke, 1999).

This study adds to the literature about and practical understanding of the knowledge transfer process by exploring the effects of both affect-based and cognition-based trust on the willingness of employees to share and use tacit knowledge. By identifying and clarifying the relationships among the different types of trust and tacit knowledge sharing and use, this study endeavors to provide organizational leaders with empirically based information that is helpful in facilitating the transfer and exchange of tacit knowledge among professional employees (Smedlund, 2008).

Theoretical development

Explicit and tacit knowledge

In their review, Raub and Ruling (2001) have noted that the bulk of knowledge management literature is concerned primarily with the role of information technology. Cook and Brown (1999) have voiced specific concerns about information technology’s preoccupation with knowledge as an object to be possessed. Managers must also address the processes and structures that encourage individuals and groups to share and use organizational knowledge (Cross and Baird, 2000). Indeed, the preoccupation of organizations with information technology for managing explicit knowledge may have led to neglect of the more important and challenging task of facilitating the sharing and use of tacit forms of knowledge (Johannessen et al., 2001).

Explicit knowledge is easily articulated or reduced to writing, is often impersonal and formal in nature, and frequently takes the form of documents, reports, “white papers”, catalogues, presentations, patents, formulas, etc. (Nonaka, 1991, 1994; Nonaka and Konno, 1998; Nonaka and Nishiguchi, 2001; Nonaka and Takeuchi, 1995; Nonaka and Teece, 2001; Zack, 1999b). In contrast, tacit knowledge (e.g., abilities, developed skills, experience, undocumented processes, “gut-feelings”, etc.) is highly personal and difficult to reduce to writing. Tacit knowledge is rooted in an individual’s experience and values (Nonaka and Konno, 1998). This type of knowledge may play an important role in the strategic planning performance of managers and professional staff (Bennett, 1998; Blattberg and Hoch, 1990; Brockmann and Anthony, 1998).

Table I describes some specific characteristics of both explicit and tacit knowledge.
Tacit knowledge sharing and use

Face-to-face interaction often is the primary method for transferring tacit knowledge (Nonaka and Takeuchi, 1995; Spender and Grant, 1996; Sweeney, 1996; Teece, 2000; Teece et al., 1997). The levels of risk and uncertainty that are associated with tacit knowledge transfer are reduced by trusting relationships (Foos et al., 2006). Some transfers of tacit knowledge are formal, resulting from training events, or conferences, while others are more informal, resulting from interdepartmental task forces, informal social networks and employee interactions (Marquardt, 1996). Key to both formal and informal tacit knowledge transfer is the willingness and capacity of individuals to share what they know and to use what they learn (Foos et al., 2006; O’Dell et al., 1998; Szulanski, 1995, 1996). Barriers may arise that limit the transfer of tacit knowledge (Lucas, 2005). These include coworker willingness to share and/or use tacit knowledge, limited awareness of the tacit knowledge an individual possesses, difficulty in expressing tacit knowledge that is tied to mental and/or physical action, and difficulty of applying context-specific tacit knowledge in other contexts (Argote, 1999; Fahey and Prusak, 1998; Nidumolu et al., 2001; Nonaka and Takeuchi, 1995; Stenmark, 2000, 2002).

Sharing tacit knowledge may involve risks to an individual, such as loss of competitive advantage over peers (Leonard and Sensiper, 1998; Stenmark, 2000, 2002). Likewise, use of tacit knowledge may involve risks to an individual, such as a source providing incomplete or having a questionable track record. In light of these risks, Nahapiet and Ghoshal (1998) developed a theoretical model linking trust and knowledge exchange, suggesting that trust may be a multidimensional construct that includes distinct cognitive and affect/relationship based components. Affect-based trust is grounded in relationships where the parties have

<table>
<thead>
<tr>
<th>Citation</th>
<th>Explicit knowledge</th>
<th>Tacit knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athanassiou and Nigh (2000)</td>
<td>Transfer “depends on the credibility of the transferer” and is “most effectively achieved through face-to-face interaction”</td>
<td>Learned through observation and imitation; shared through analogies, metaphors, and stories</td>
</tr>
<tr>
<td>Choo (2000)</td>
<td>Products, patents, code, databases, technical drawings, tools, prototypes, audiovisuals, operating procedures</td>
<td>Experimental, intuitive, communicated through face-to-face collaboration</td>
</tr>
<tr>
<td>Clarke and Rollo (2001)</td>
<td>Codified, formal, systematic, reports, manuals, documents</td>
<td>Primarily transferred through direct interaction between individuals</td>
</tr>
<tr>
<td>Epstein (2000)</td>
<td>Data, instructions, simple factual information, work progress, status</td>
<td>Big picture issues, company information/rumors/gossip, needs, new ideas, insight, intuition, problems, concerns, issues</td>
</tr>
<tr>
<td>Haldin-Herrgard (2000)</td>
<td>Handbooks, lectures, databases, textbooks, manuals, newsletters</td>
<td>Intuition, rule-of-thumb, gut feeling, personal skill</td>
</tr>
<tr>
<td>Meso and Smith (2000)</td>
<td>Know-what, know-why, know-how, copyrights, patents</td>
<td>Mental models, beliefs, persuasions, care-why</td>
</tr>
<tr>
<td>Scott (2000)</td>
<td>Transferred through face-to-face interaction, observation, imitation, practice, shared-experiences based on trust</td>
<td></td>
</tr>
<tr>
<td>Smith (2001)</td>
<td>Academic, know-what, print or electronic media, manuals, mathematical expressions, copyrights, patents</td>
<td>Practical, action-oriented, know-how, resembles intuition, mental models, values, beliefs, perceptions, insights, assumptions. Exchanged through “knowledge fairs, learning communities, study missions, tours, advisory boards, job rotation”</td>
</tr>
<tr>
<td>Zack (1999b)</td>
<td>Mathematical formulas, training manuals, product literature, computer software</td>
<td>Shared through highly interactive conversation, storytelling, shared experience</td>
</tr>
</tbody>
</table>
care and concern for each other, value the intrinsic virtue of such relationships, and believe that these sentiments are reciprocated (McAllister, 1995; Pennings and Woiceshyn, 1987). On the other hand, cognition-based trust is based on another person’s perceived competence and reliability (McAllister, 1995).

Lucas (2005) found that both interpersonal trust and reputation of knowledge recipients and sources explained variance in employee knowledge transfer. In this study, Lucas did not distinguish between explicit and tacit knowledge, but the interpersonal trust measure used is similar in nature to affect-based trust, while reputation is akin to cognition-based trust. The empirical research of McAllister (1995) demonstrated that affect-based and cognition-based trust each are distinct forms of interpersonal trust and were both related to extra-role organizational citizenship behaviors directed at other individuals in an organization. Thus both affect-based trust and cognition-based trust may contribute to explanation of employee willingness to share and use tacit knowledge.

H1. Both affect-based and cognition-based trust in a co-worker will have positive relationships with the willingness to share and use tacit knowledge.

Previous studies have shown that as individuals grow closer in their personal relationship to one another, they are increasingly motivated to act in ways that benefit the other (Brann and Foddy, 1988; Epstein, 2000; Fukuyama, 1995; Messick et al., 1983; Nonaka and Takeuchi, 1995; Organ, 1990). Several studies have highlighted the importance of trust developed through close personal relationships. For example, Hansen (1999) found that in new product development projects, strong personal ties were necessary for the transfer of tacit knowledge between work units. Epstein (2000) found that individuals who were friends were more likely to exchange personal and complex knowledge through face-to-face communication. These previous studies suggest that willingness to share tacit organizational knowledge with another co-worker is likely to be heavily influenced by affect-based connections. People often learn tacit knowledge through close observation and interaction with someone who already possesses that knowledge, as an apprentice learns his trade from a master craftsman.

As Nonaka and Takeuchi (1995) found in their study of Japanese companies, personal relationships developed in the context of organizational retreats often resulted in the sharing of tacit knowledge. In a separate study, Epstein (2000) found that personal relationships had the greatest impact on the sharing of tacit knowledge between individuals. Foos et al. (2006) also found that interpersonal trust among project team members was a significant predictor of tacit knowledge transfer. These previous findings highlight the importance of affect-based trust and led to our second study hypothesis:

H2. Affect-based trust of a coworker will have a larger influence than cognition-based trust on an employee’s willingness to share tacit knowledge.

A willingness to use tacit knowledge is likely based on an employee’s understanding of the accuracy and validity of the knowledge (Auster and Choo, 1994; Choo, 1998; Szulanski, 1995, 1996). As Lucas (2005) points out, successful knowledge transfer depends on individual willingness to change the way things are done and risk the possibility of failure. Employees must perceive there are positive benefits from using tacit knowledge. Studies of persuasion and influence suggest that an expert and trustworthy source is more likely to influence a recipient (Perloff, 1993; Szulanski, 1995). Other studies suggest that limitations in transfer of tacit knowledge may result from the lack of perceived reliability of the source or recipient (Arrow, 1974). When a source of knowledge is not perceived as trustworthy, his/her advice and knowledge may be more openly challenged and resisted (Szulanski, 1995). Other studies have found that before tacit knowledge is used by other employees, the source must have a solid reputation within the organization (Foos et al., 2006; Lucas, 2005). These studies taken together suggest that employees must be relatively certain that tacit knowledge sources will provide all the relevant information, will deliver what is expected, and are perceived in the organization as possessing worthwhile knowledge. Thus, use of tacit knowledge will depend more heavily on cognition-based trust.
Cognition-based trust of a coworker will have a larger influence than affect-based trust on an employee’s willingness to use tacit knowledge.

**Methods**

**Sample**

The sample for this study consisted of managerial and professional staff in headquarters of an international non-profit organization that supports the work of missionaries working around the world. The organization’s managers and professional staff operate in functional areas common to most organizations (e.g. strategic planning, research, accounting, human resources, information technology, public relations, etc.). These employees regularly have needs to share and use tacit knowledge in the course of performing their jobs. Of the 263 managers and professional staff in the organization, 202 provided data for this study, a response rate of 76.81 percent. There were no significant difference between the members of the sample and the total members of the sampling frame in age, gender, and average tenure. The sampling frame and our sample both contained 70 percent professional staff and 30 percent managers.

**Measures**

**Dependent variables.** Lacking previously tested and validated measures for willingness to share and use tacit knowledge, two four-item measures were developed based on the literature. For each of these measures the survey asks the respondent to indicate his/her agreement to a particular statement on a seven-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, 7 = strongly agree) for each item. The items used and their sources are:

1. **Willingness to share tacit organizational knowledge:**
   - If requested to do so, I would allow this individual to spend significant time observing and collaborating with me in order for him/her to better understand and learn from my work (Choo, 2000; Clarke and Rollo, 2001; Davenport and Grover, 2001; Scott, 2000).
   - I would willingly share with this person rules of thumb, tricks of the trade, and other insights into the work of my office and that of the organization I have learned (Haldin-Herrgard, 2000; Wong and Radcliffe, 2000).
   - I would willingly share my new ideas with this individual (Epstein, 2000).
   - I would willingly share with this individual the latest organizational rumors, if significant (Epstein, 2000).

2. **Willingness to use tacit organizational knowledge:**
   - If relevant to my work, I would welcome the opportunity to spend significant time observing and collaborating with this individual in order for me to better understand and learn from his/her work (Choo, 2000; Clarke and Rollo, 2001; Davenport and Grover, 2001; Scott, 2000).
   - If relevant to my work, I would welcome and use any rules of thumb, tricks of the trade, and other insights he/she has learned (Haldin-Herrgard, 2000; Wong and Radcliffe, 2000).
   - I would eagerly receive and consider any new ideas this individual might have (Epstein, 2000).
   - I would tend to believe organizational rumors shared by this individual and would use such knowledge as appropriate (Epstein, 2000).

**Independent variables.** Measures developed and tested by McAllister (1995) were used to assess affect and cognition-based trust. Affect-based trust was measured using McAllister’s five-item scale (α = 0.93). Example items for affect-based trust include: “I can talk freely to...”
this person about difficulties I am having at work and know that (s)he will want to listen” and “I would have to say that we have both made considerable emotional involvements in our working relationship”. Cognition-based trust is measured using McAllister’s (1995) six-item survey ($\alpha = 0.93$). Example items include: “I can rely on this person not to make my job more difficult through careless work” and “Most people, even those who aren’t close friends of this individual, trust and respect him/her as a co-worker”.

**Control variables.** Some studies (Strauss and Howe, 1993; Tulgan, 1995) have suggested that younger workers are more individualistic and less trusting of others than older workers. This suggests that age might affect a worker’s willingness to share or use tacit knowledge. Carroll (2002) found that same-sex friendships between women are more trusting than those between men. Consequently, women may be more willing than men to share and use tacit knowledge from colleagues. An employee’s tenure with an organization might reduce the tendency to use tacit knowledge obtained from co-workers and increase the tendency to share such knowledge. Thus, respondent age, gender and tenure were controlled in our analyses.

**Procedure**

The Senior Vice President of the organization sent a letter to all managers and professional staff, informing them of the nature of the study and encouraging their participation. These personnel were then contacted via e-mail and asked to complete an online survey. The survey software assigns a unique ID to each addressee that ensures each respondent completes only one survey. This also enabled us to follow up with non-respondents.

It is possible that the relationship of an individual’s trust of a coworker and the willingness to share or use tacit knowledge with/from that person may differ depending on the nature of the personal interactions between the two co-workers (Feldman and Lynch, 1988). For example, the relationship between affect-based and cognition-based trust and the willingness to share and use tacit knowledge could be quite different for a co-worker with whom a respondent has agreeable personal interactions than for one with whom personal interactions are difficult. In an effort to obtain information about the role of affect-based and cognition-based trust across a full range of coworker relationships, two responses to our questionnaire were obtained from each respondent. One response was for co-workers with whom the respondents works well and one for co-workers that the respondent does not work with well. Previous studies have asked respondents to provide responses for a co-worker with whom they work well and a co-worker with whom they do not work well and both types of responses have been averaged in the study sample (McAllister, 1995; Tsui and Gutek, 1984). Following this approach, the two responses were averaged for analysis.

**Results**

In order to investigate the discriminant validity of our measures, confirmatory factor analyses were used to compare the fit of a four factor model (willingness to share tacit knowledge, willingness to use tacit knowledge, affect-based trust, cognition-based trust) with alternative three-factor models (one combining the trust variables, the other combining the willingness to share and use variables), a two-factor model, and a one-factor model. The model with four distinct factors had the best fit with the data, suggesting that our dependent and independent variables are empirically distinct. The results of this confirmatory analysis are shown in Table II.

To further evaluate the construct validity of our measures for willingness to share and use tacit knowledge, follow-up data were collected from a sub-sample of 19 of the original respondents. Respondents were asked to:

- rate their willingness to share and use tacit knowledge with a selected co-worker using our measures;
- indicate the extent to which each had actually shared tacit with the co-worker; and
- indicate the extent to which each had actually used tacit knowledge provided by the co-worker.
The correlation between the willingness to share tacit knowledge and the extent to which tacit knowledge was actually shared was 0.69 \( (p < 0.05) \). The correlation between willingness to use tacit knowledge and the extent to which tacit knowledge was received and used was 0.78 \( (p < 0.01) \).

The correlations among the study variables are shown in Table III.

The only correlations that exceed 0.50 in Table II are between two dependent variables suggesting that multicollinearity of the independent variables is unlikely to bias parameter estimates developed in the multivariate regression analysis (Pedhazur, 1973).

The study hypotheses were tested using hierarchical moderated multivariate regression. These regression models are presented in Table IV.

In Table IV, the coefficients for both affect-based and cognition-based trust are positive and significant in both the regression model predicting willingness to share tacit knowledge and the model predicting willingness to use tacit knowledge. These results support \( H1 \). In the model predicting willingness to share tacit knowledge, the coefficient for affect-based trust is significantly larger than the coefficient for cognition-based trust \( (t = 3.88, p < 0.01) \) in the regression model predicting willingness to share tacit knowledge. This supports \( H2 \). In the regression model predicting willingness to use tacit knowledge the coefficient for cognition-based trust is significantly larger than the coefficient for affect-based trust \( (t = 1.78, p < 0.05, \text{one-tailed test}) \). This result supports \( H3 \).

**Discussion**

This study focused on exploring the relationship between both affect-based and cognition-based trust and the willingness of professionals to share and use tacit knowledge within an organization. Our multivariate regression analyses show that both affect-based and cognition-based trust are positively related to a worker’s willingness to share and use tacit knowledge. Affect-based trust has a greater influence on willingness to share tacit knowledge.

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### Table II: Results of confirmatory factor analysis of the independent and dependent variables

<table>
<thead>
<tr>
<th>Alternative models</th>
<th>( \chi^2 ) (df)</th>
<th>( \Delta \chi^2 ) (df)</th>
<th>RMSEA (^a)</th>
<th>GFI (^b)</th>
<th>NFI (^c)</th>
<th>CFI (^d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four constructs (^e)</td>
<td>241.84 (146)**</td>
<td>–</td>
<td>0.06</td>
<td>0.95</td>
<td>0.90</td>
<td>0.95</td>
</tr>
<tr>
<td>Three constructs (combining affect-based trust and cognition-based trust)</td>
<td>278.38 (149)**</td>
<td>36.56 (3)**</td>
<td>0.07</td>
<td>0.94</td>
<td>0.87</td>
<td>0.93</td>
</tr>
<tr>
<td>Three constructs (combining willingness to share and willingness to use tacit knowledge)</td>
<td>289.14 (149)**</td>
<td>47.32 (3)**</td>
<td>0.07</td>
<td>0.94</td>
<td>0.87</td>
<td>0.93</td>
</tr>
<tr>
<td>Two constructs (combined trust measures and combined willingness measures)</td>
<td>309.95 (151)**</td>
<td>68.11 (5)**</td>
<td>0.07</td>
<td>0.93</td>
<td>0.86</td>
<td>0.92</td>
</tr>
<tr>
<td>One construct</td>
<td>369.92 (152)**</td>
<td>128.08 (6)**</td>
<td>0.08</td>
<td>0.92</td>
<td>0.83</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Notes: \( a \)Root mean squared error of approximation; \( b \)goodness of fit index; \( c \)normed fit index; \( d \)comparative fit index; \( e \)affect-based trust, cognitive-based trust, willingness to share tacit knowledge, willingness to use tacit knowledge.

The correlation between the willingness to share tacit knowledge and the extent to which tacit knowledge was actually shared was 0.69 \( (p < 0.05) \). The correlation between willingness to use tacit knowledge and the extent to which tacit knowledge was received and used was 0.78 \( (p < 0.01) \).

### Table III: Means, standard deviations, and correlations among study variables \((n = 202)\)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Willingness to share tacit knowledge</td>
<td>5.30</td>
<td>0.73</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>2. Willingness to use tacit knowledge</td>
<td>5.37</td>
<td>0.73</td>
<td>0.75</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3. Affect-based trust</td>
<td>4.43</td>
<td>0.65</td>
<td>0.49</td>
<td>0.39</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>4. Cognition-based trust</td>
<td>5.11</td>
<td>0.69</td>
<td>0.34</td>
<td>0.46</td>
<td>0.40</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>5. Gender (^a)</td>
<td>1.40</td>
<td>0.49</td>
<td>0.02</td>
<td>0.07</td>
<td>0.01</td>
<td>–0.05</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>6. Age</td>
<td>45.6</td>
<td>9.52</td>
<td>0.06</td>
<td>0.06</td>
<td>0.07</td>
<td>0.08</td>
<td>0.06</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>7. Tenure</td>
<td>13.7</td>
<td>8.89</td>
<td>–0.06</td>
<td>–0.07</td>
<td>–0.02</td>
<td>–0.01</td>
<td>0.16</td>
<td>0.57</td>
<td>–</td>
</tr>
</tbody>
</table>

Notes: Correlations larger than 0.14 are significant at \( p < 0.05 \); correlations larger than 0.18 are significant at \( p < 0.01 \). \( a \)Coded 1 = male and 2 = female.
share tacit knowledge, while cognition-based trust has a larger influence on willingness to use tacit knowledge.

Taken together, these results suggest that both warm personal relationships most likely developed through face-to-face interactions and solid respect for another worker’s professional capability is required for the sharing of tacit knowledge. Affect-based and cognition-based trust together accounted for approximately 25 percent of the variance in willingness to share tacit knowledge. As O’Neill and Adya (2007) have pointed out, professionals may tend to view themselves as relatively autonomous, with as much or more commitment to their occupation as to their organization. The store of tacit knowledge these workers have accumulated may be considered a valuable asset that will be shared primarily with others with whom a good personal relationship exists and whose reputation for solid professional performance is established. The need for both types of trust seems to be important, suggesting that a good personal relationship alone may not predict tacit knowledge exchange. Willingness to share tacit knowledge also requires some confidence that the knowledge will be appropriately and professionally used. However, the quality of the personal relationship with a co-worker has the most significant effect on willingness to share tacit knowledge, suggesting that unless affect-based trust of another co-worker is present, little tacit knowledge sharing may occur regardless of how competent the possible recipient may be.

Both affect-based and cognition-based trusts are also needed for a professional employee to be willing to use tacit knowledge. The perceived competence and professionalism of the source of the tacit knowledge is a more critical determinant of willingness to use such knowledge. The use of tacit knowledge may present a somewhat larger risk to a professional employee than the act of sharing such knowledge. If a worker chooses to use and apply tacit knowledge provided by another, and the results are not as positive as expected, the recipient may need to present a responsible explanation to organizational management. Thus, the recipient of tacit knowledge must be confident about the consensus concerning the professional competence of the knowledge source. An employee may make decisions about his/her personal liking for a co-worker in relative isolation because it is not considered important for others to approve of one’s friends. However, judgments about a peer’s professional competence and contribution to the organization may require consensus views to be considered valid. While cognition-based trust has substantial influence on the willingness to use tacit knowledge, affect-based trust also must be present. A critical requirement for effective use of tacit knowledge is receipt of complete information, a process that is likely facilitated by a positive personal relationship with and trust of the source of the tacit knowledge.

Practical implications

The effective management of tacit knowledge – the unwritten memory of the firm – is essential to the success of modern firms. Tacit knowledge is not readily captured or stored by information technology systems. Increasing investment in information technology will not translate into better transfer and use of tacit knowledge because individuals decide whether they will share tacit knowledge and individuals decide whether they will use tacit knowledge.

<table>
<thead>
<tr>
<th>Table IV</th>
<th>Regression models predicting tacit knowledge sharing and use (n = 202)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variables</strong></td>
<td>Tacit knowledge sharing</td>
</tr>
<tr>
<td></td>
<td><strong>β</strong></td>
</tr>
<tr>
<td>Gender</td>
<td>0.05</td>
</tr>
<tr>
<td>Age</td>
<td>0.01</td>
</tr>
<tr>
<td>Tenure</td>
<td>-0.01</td>
</tr>
<tr>
<td>ΔR²</td>
<td>0.02</td>
</tr>
<tr>
<td>Cognition-based trust</td>
<td>0.19</td>
</tr>
<tr>
<td>Affect-based trust</td>
<td>0.50</td>
</tr>
<tr>
<td>ΔR²</td>
<td>0.25**</td>
</tr>
<tr>
<td>Total R²</td>
<td>0.27**</td>
</tr>
</tbody>
</table>

Notes: *p < 0.05; **p < 0.01
Our results suggest that tacit knowledge sharing and use depends on the formation of both affect-based and cognition-based trust among co-workers. This suggests that any diagnosis of organizational knowledge exchange processes should carefully consider the types and levels of trust between employees. If sharing and use of tacit information is important within an organization, leaders may be well served to make investments that help develop these types of trust among coworkers. Both types of trust may be increased through frequent direct engagement of co-workers in collaborative processes – especially situations that illustrate interdependency and provide opportunity for workers to demonstrate individual competency (Dietz, 2004; McAllister, 1995). For example, co-worker affect-based and cognition-based trust might be fostered by collaborative experiences involving interdependent projects similar to those presented to competitors on the popular television show “The Apprentice” – without the fear of hearing “You’re fired”.

The results also suggest that it may be important to understand the source of the levels of affect-based trust. That is, if workers tend to make judgments about co-workers based primarily on social categorization using surface attributes, increased frequency of interaction among these co-workers may positively alter trust levels. In some cases, a co-worker who appears different may turn out to be more similar in underlying values, attitudes, and competencies. However, if a co-worker is not trusted because of demonstrated differences in competence or values, increased interaction may further decrease both affect-based and cognition-based trust. McAllister (1995) also found that higher levels of affiliative behavior (taking a personal interest, passing on information, helping another with tasks) increased affect-based trust among professional peers. Managerial actions and practices that encourage and perhaps measure these types of collaborative behaviors may be worthwhile investments that lead to greater levels of sharing and use of tacit knowledge within organizations. However, McAllister’s (1995) data also suggested that cognitive-based trust significantly affected the level of affect-based trust among peers. Thus managers may be advised to focus on identifying andremedying job performance weaknesses of professional staff. Heading off such weaknesses through training, on-the-job instruction, and development experiences seems likely to pay off in greater levels of trust among co-workers and more extensive sharing and use of tacit knowledge.

Limitations of the study and suggestions for future research

While our results are framed in terms of the influences of cognition and affect-based trust on the willingness to share tacit knowledge with co-workers, it is also possible that causal direction runs in the opposite direction. That is, our data are cross-sectional. So it is possible that the affect-based and cognition-based trust measured in this study had developed because tacit knowledge had been shared and/or used by co-workers. Although empirical evidence (confirmatory analysis and the Harmon one-factor test) suggests that the relationships among the variables are unlikely to be primarily the result of common method, and that the constructs are distinct, confidence in the relationship among the constructs will be further enhanced by future studies that make use of multiple methods to obtain data. Future studies should consider longitudinal designs that will make it possible to understand better the causal ordering among alternative trust types and willingness to share and use tacit knowledge. Alternately, archival information could be used in future efforts to measure actual knowledge receipt and use among co-workers.

This study is also limited in that it surveyed management and professional staff in only one organization. Future research should explore the relationships among affect-based and cognition-based trust and tacit knowledge transfer in other organizational contexts to better understand possible effects of cultural norms within organizations. It is possible that professionals working in other types of organizations, especially for-profit companies, might weight affect- and cognition-based trust differently in making decisions to share and use tacit knowledge. Similarly, professionals working in task environments with different degrees of interdependence (e.g. military, security, etc.) might place emphasis on different aspects of trust.
It should also be recognized that professionals providing data for this study worked in an international headquarters where some critical trust-building interactions occurred in face-to-face meetings. Workers in regional or branch offices may have to rely more on virtual communication and thus may place different emphasis on each form of trust in determining their willingness to share and use tacit knowledge. Finally, although ethnicity was not measured within our sample, observation by the researchers suggested more members were native to the USA. In a group comprised of different cultural groups affect and cognition-based trust may play different roles in determining cross-cultural willingness to share and use tacit knowledge. Future studies should examine the relationship of affect-based and cognition-based trust on organizations of different size where opportunities for personal interaction differ. Future research could also explore how the impetus for a specific knowledge exchange opportunity affects a person’s willingness to engage in such exchange. For example, an individual may be willing to respond to a request from another for knowledge of how a task should be done. Yet, that same individual might be less willing to take the initiative to share the knowledge independent of such a request. Such reticence may be problematic in that employees may not know who in the organization has the knowledge they need.

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**Further reading**


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