THE STRENGTH OF WEAK TIES YOU CAN TRUST: THE MEDIATING ROLE OF TRUST IN EFFECTIVE KNOWLEDGE TRANSFER

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ABSTRACT

We propose a model whereby two-party (dyadic) trust mediates the relationship between strong ties and effective knowledge transfer. We tested this model with a survey in three companies in different countries and found strong support. First, the positive impact of strong ties on effective knowledge transfer (as reported by the knowledge seeker) was mediated by competence- and benevolence-based trust. Second, once we controlled for these two dimensions of trust, it was actually *weak* ties that provided the most useful knowledge. This latter finding is consistent with prior research suggesting that weak ties provide access to non-redundant information. Third, we found that competence-based trust was especially important for the transfer of tacit knowledge.

INTRODUCTION

Organizations that can make full use of their collective expertise and knowledge are likely to be more innovative, efficient, and effective in the marketplace (Grant, 1996). Yet ensuring effective knowledge creation and transfer has proven a difficult challenge. Recent scholarly work (e.g., Hansen, 1999) has identified social relations as critical to effective knowledge transfer in organizational settings. Yet, despite their importance, we have little systematic evidence of the characteristics of personal relationships that promote effective knowledge transfer. We therefore undertook this research to assess the role of two-party (dyadic) trust in this context.

THEORETICAL MODEL

Social network researchers have demonstrated the effect of tie strength on information acquisition. Granovetter (1973), in his study of how people find jobs, initially theorized that weak ties—those characterized as distant and by infrequent interaction—were more likely to be sources of novel information, because strong ties tend to be connected to others who are close to a knowledge seeker and therefore more likely to be trafficking in information that the seeker already knows. More recently, though, Hansen (1999) has demonstrated the importance of strong

ties in transferring complex, "tacit" knowledge—i.e., know-how that is difficult to codify or explain—across departmental boundaries. Cross (2001) found that, while weak ties were instrumental for the transfer of solutions, or surface-level information, people relied heavily on strong ties to help frame and solve problems. Consistent with these and other, similar findings, we suggest that strong ties are instrumental in providing knowledge that people use in their work.

H1: Overall, strong ties—and not weak ones—yield useful knowledge transfer.

We argue that the reason strong ties promote effective knowledge transfer is because they tend to be trusting ones. Seeing a knowledge source as trustworthy should increase the chance that the knowledge receiver will pay attention to, learn from, and absorb the knowledge that is transferred. For example, Levin (1999), in his study of R&D scientists and product development engineers, found that strong, trusting ties usually helped improve outcomes but that trust alone was often just as good a substitute when only weak ties existed. While some might argue that trust and strong ties are indistinguishable, a number of scholars (e.g., Tsai & Ghoshal, 1998) suggest that they are two distinct concepts. For example, sometimes people at work are forced to interact frequently with a coworker whom they do not trust; conversely, sometimes people with little or no prior history develop "swift" trust.

Mayer, Davis, and Schoorman (1995: 712) define trust as "the willingness of a party to be vulnerable." As a short hand, we use the abbreviated term *trust* in place of the closely related concept of *perceived trustworthiness*—that quality of the trusted party that makes the trustor willing to be vulnerable. In this study we focus on two dimensions of perceived trustworthiness identified by Mayer et al. (1995): benevolence and competence (i.e., ability). (We decided not to include a third dimension, integrity, because it did not seem relevant in the advice seeking context for explaining the knowledge benefits of strong ties.)

In revealing their ignorance about something, knowledge seekers inherently become vulnerable to the benevolence of the knowledge source. Further, benevolence-based trust also likely shapes the extent to which knowledge seekers will be forthcoming about their lack of knowledge. Defensive behaviors can knowingly and unknowingly block learning by both individuals and groups. As a result, benevolence-based trust should create conditions for learning that enable more effective knowledge transfer. In addition, knowledge seekers who trust a knowledge source's competence to make suggestions and influence their thinking are more likely to listen to, absorb, and then take action on that knowledge source's advice. By better understanding a knowledge source's skills and expertise, strong ties should result in greater competence-based trust, which should in turn lead to more useful knowledge transfer.

H2: The relationship between strong ties and useful knowledge transfer is mediated by (a) benevolence-based trust, and (b) competence-based trust.

If strong ties are effective in knowledge transfer due to trust, then once dyadic trust is controlled for, the structural benefit of a weak tie's ability to provide non-redundant information (Granovetter, 1973) should become apparent.

H3: After controlling for competence- and benevolence-based trust, it will be weak ties—not strong ones—that will lead to more useful knowledge transfer.

When the knowledge transferred is simple and straightforward, trust in the competence of the knowledge source might not be critical, since the knowledge itself may be self-explanatory. Complex or difficult-to-understand knowledge, though, is more likely to require that the knowledge receiver trust that the knowledge source knows what he or she is talking about.

H4: Competence-based trust will be even more important to the receipt of useful knowledge when the knowledge involved is tacit (i.e., not written or codified).

Benevolence-based trust, though, probably always matters (H2), because even simple knowledge will likely get rejected as misleading, or even harmful, if the source is seen as malevolent.

METHODS

Sample

We surveyed a division of a U.S. pharmaceutical company, a division of a British bank, and a large group within a Canadian oil and gas company. A total of 138 respondents completed the entire survey (response rate = 52%). As described below, each respondent reported on up to four relationships, thereby generating an initial total sample of 538 observations. Respondents did not differ significantly by gender or office location from the group of people sent surveys.

Data Collection

Using standard egocentric network survey techniques, we asked respondents: "Consider a project that you are currently involved with or that ended recently (in the past three months) that you feel holds significance for your career." We then asked respondents to list up to 10 or 15 people to whom they had turned to for information, knowledge, or advice to get their work done on that project. To get a balanced view of each person's network, we then asked respondents to choose the two most helpful and the two least helpful advice givers from their list. The remainder of the survey then asked a series of questions about the four people chosen (e.g., how much each person was trusted). Within a week or so after completing part A, respondents received part B of the survey, which asked additional questions about these same four people (e.g., how useful the knowledge received from each person was).

Variables

We combined eight items from the literature to create the outcome variable, receipt of useful knowledge: four items related to project efficiency in terms of time and budget and four items related to project effectiveness. These eight items asked to what extent the knowledge received from each person contributed positively or negatively to key aspects of the project's outcomes.

A factor analysis confirmed that the items for tie strength and the two trust dimensions were all tapping distinct constructs. Tie strength was based on three items. The first two items—closeness

of a working relationship and frequency of communication—were adapted from Hansen (1999). To enhance this construct's reliability, we created a third item on the frequency of interaction. Benevolence-based trust (e.g., this person cares about me) and competence-based trust (e.g., this person approaches his or her job with professionalism and dedication) were adapted from the trust literature. We adapted the three items on tacit knowledge (e.g., knowledge was written down) from Hansen (1999). To test H4, we converted the two relevant variables to deviation scores and then multiplied them together to create competence-based trust * tacit knowledge.

We also controlled for individual respondent attributes; for formal structure and power (organizational closeness, physical proximity, on same project, hierarchical level); for demographic similarity (same gender, younger source or older source by more than five years); and for knowledge-related factors. All multi-item variables had reliabilities above .70.

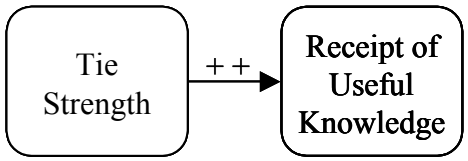
Analysis Techniques

We analyzed the data using hierarchical multiple regression, with dummy variables to correct for any non-independence of observations. We also obtained similar results (not reported here) using hierarchical linear modeling, a new statistical technique not requiring independent observations.

RESULTS

As predicted by H1, strong ties did have a positive and statistically significant ($p = .007$) overall effect on the receipt of useful knowledge. Figure 1 presents this finding graphically, along with significance levels based on regression coefficients (control variables not shown).

Figure 1
Results for Tie Strength Alone



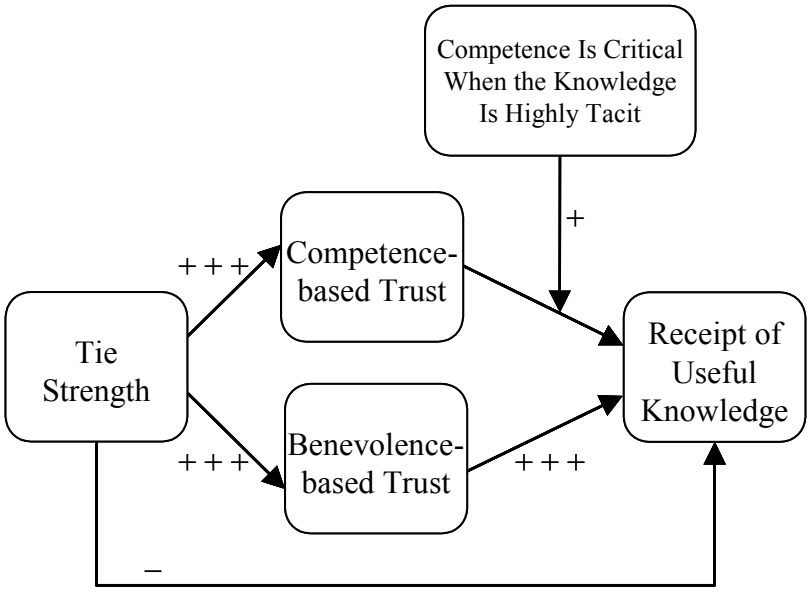
As predicted by H2, all four conditions for mediation were met. First, tie strength alone had a positive impact on outcomes ($p = .007$). Second, tie strength had a positive impact on both benevolence- ($p < .001$) and competence-based trust ($p < .001$). Third, benevolence- ($p < .001$) and competence-based trust ($p = .016$) had a positive impact on the outcome variable. Fourth, the positive effect of strong ties on outcomes disappeared once we controlled for the positive effect on outcomes of the two trust dimensions. Interestingly, adding the two trust variables had a big impact on receipt of useful knowledge, increasing the adjusted-R-squared from .40 to .57.

As predicted by H3, the net effect of strong ties on receipt of useful knowledge actually became worse than that of weak ties once we controlled for trust; i.e., there was a "switch" from the benefit of strong ties ($p = .007$ before controlling for trust) to the benefit of *weak* ties ($p = .025$

after controlling for trust). This result was due to a suppression effect and not multicollinearity.

As predicted by H4, there was an interaction effect for competence-based trust with tacit knowledge ($p = .013$); i.e., competence-based trust had a major impact on knowledge transfers involving highly tacit knowledge ($p = .001$), but was not needed for knowledge transfers involving codified knowledge ($p = .792$).

Figure 2
Results for Tie Strength and Trust



All findings in Figure 2 were statistically similar across the three different companies (i.e., in different industries and countries). In addition, results were robust to several possible alternative explanations, as well to various ways to operationalize key variables.

DISCUSSION AND CONCLUSION

In sum, we find that people usually get useful knowledge from strong ties, because they trust them to be benevolent and competent. However, we also find benefits of weak ties when we hold these two trust dimensions constant. This insight refines Granovetter's (1973) argument that weak ties offer access to non-redundant information; i.e., we find that people get their most useful knowledge at work from *trusted* weak ties. Finally, we show that competence-based trust is even more important when the transferred knowledge is complex (tacit).

This study's theoretical contribution is to both the social network and the knowledge/ organizational learning literatures. To the *social network literature,* we offer evidence of a theoretical mechanism—namely, benevolence- and competence-based trust—that enables strong ties to yield useful knowledge transfer. Further, we provide support for the idea that the

characteristics of a relationship (e.g., trust) are distinct from the mere existence of or strength of a relationship, i.e., structural issues. For example, in the current study, controlling for the effects of trust allowed us to uncover the hidden benefits of weak ties in knowledge exchanges—benefits that had been suppressed when trust was not considered separately from tie strength.

In contributing to the *knowledge transfer and organizational learning literature,* this study provides a more detailed understanding of two unique dimensions of dyadic trust and their effect on both explicit and tacit knowledge transfers. We also show how social factors like competence-based trust can interact with more traditional knowledge factors, such as tacit knowledge, to have an important and distinct impact on effective knowledge transfer.

Finally, our research can be helpful to practitioners. First, executives might consider targeting appropriate interventions based on our finding that trusting people's benevolence consistently matters in knowledge exchange but trusting their competence matters mainly when the exchange involves tacit knowledge. Second, our results suggest that individuals and organizations could benefit from developing trusted weak ties, not just strong ties—especially given the fact that weak ties are less costly than strong ties to maintain (Hansen, 1999). All in all, we feel that managers will find it fruitful to focus on ways to improve trust as a relatively inexpensive and practical way to improve the flow of useful knowledge and advice in their organization.

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