DIFFERENCES IN KNOWLEDGE SEEKING TIES BETWEEN THE US AND SINGAPORE STUDENTS: AN EXPLORATORY STUDY

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Abstract

We investigate three important antecedents of individual knowledge seeking (KS) behaviors that are derived based on social networks theory: a) prior friendship ties, b) shared team membership, and c) gender similarity. KS behaviors are operationalized as KS ties and the proposed model is tested using data collected from student teams engaged in software development projects at a large public university in the northeast US and its Singapore campus. We use Quadratic Assignment Procedure (QAP) multiple regression to analyze the model. Preliminary results indicate cultural differences in KS behaviors between the US and Singapore samples. The effect of prior relational tie is positive and higher in the Singapore sample as compared to the US sample but it is negative and lower than the US sample for prior cognitive ties. Analysis also revealed no effect for two males but a strong negative effect on KS for two females in the Singapore sample.

Keywords: Knowledge seeking, social network analysis, gender differences
Introduction

A recent meta-analysis by van Wijk et al. (2008) concluded that knowledge transfer across and within firms has become “an underlying theme in strategy and organization research” (p. 830). Understanding knowledge seeking is the first critical step in understanding knowledge transfer within organizations, and previous research has shown that knowledge seeking is critical for the effectiveness of knowledge sharing in organizations (Bock et al. 2006). In the information technology (IT) industry, knowledge seeking (KS) is even more critical due to the knowledge intensive nature of the various tasks in this domain. A number of studies in the information systems (IS) field have focused on different aspects of knowledge transfer (e.g., Bock et al. 2005; Cha et al. 2008; Griffith et al. 2003), but less attention has been paid to the factors that affect individual decisions about seeking knowledge from other people (Borgatti et al. 2003).

Based on recent work in the social networks area (Krackhardt 2010), the act of an individual to seek knowledge from another one can be conceptualized as one type of contact occurring between two people. One of the most accepted premise in the field of social networks is that “birds of a feather flock together” (McPherson et al. 2001, p.416), or, in other words, a tie is more likely to occur between two similar people than among dissimilar people. Based on this maxim about social networks, we investigate three important antecedents of individual KS behaviors in the current study that represent three different aspects of similarity in the context of team-based IT projects, with two samples from different cultural backgrounds. They are: a) prior friendship tie, b) shared team membership, and c) gender similarity. We argue that the first two antecedents encapsulate individuals’ prior social capital coming from the relational and cognitive aspects of interpersonal relationships, respectively (Nahapiet et al. 1998). We chose two samples with different cultural backgrounds because prior social capital may have differential impacts on KS behaviors due to cultural differences. This is because knowledge seekers have to necessarily surface their paucity or lack of knowledge in a certain area to some extent, and this may be associated with weakness in some cultures and make one vulnerable and even subservient to the knowledge giver in other cultures. Further, gender similarity also extends the national cultural dimension of masculinity vs. femininity (Hofstede 1984; Hofstede 1991) as gender stereotypes in the US and Asian cultures may be different, particularly with respect to how women are perceived in the society and the role they play in organizational life. Therefore, we focus on gender as another similarity antecedent of individual KS, and, repeat the same research design and data analysis in two different samples from two different countries, to provide more robust findings about knowledge seeking behavior.

Thus, the two related research questions that this study seeks to address are: 1) how do prior social capital and gender similarity affect dyadic KS ties in IT projects? and 2) do these factors differ in their impact on KS ties in the US and Singapore data samples? These questions are tested using data collected from student teams engaged in software development projects at a large public university in the northeast US and its Singapore campus. Participating students only interacted with their classmates within the same campus. The study is exploratory in nature as we do not offer specific hypotheses of differences between the US and Singapore samples but rather wish to empirically explore if our hypotheses were consistent across cultures, or there exist any differences in these two countries with respect to KS tie formation. Below, we first discuss the research model and hypotheses followed by a discussion of some preliminary results. We then provide a discussion of the future work that we are undertaking, and hope to present at the conference if our paper is accepted.

Theoretical Development

Knowledge Seeking

Organizational knowledge transfer is conceptualized as the process through which one unit (e.g., group, department, or division) is affected by the experience of another (Argote et al. 2000). Knowledge transfer begins with the individual and involves a process where knowledge held by individuals is integrated into higher-level knowledge. Specifically, an individual acquires knowledge from other individuals, brings personal knowledge into a unit, articulates it to other unit members, and then forms higher-level concepts (Nonaka 1994). In this process, knowledge seeking is as important as knowledge contribution. Previous studies have examined what motivates individuals to contribute to knowledge sharing (Bock et al. 2005; Wasco et al. 2005), but research on the motivation to proactively seek knowledge has been scant.
Therefore, it is important to begin investigating the determinants of individuals’ acquiring or seeking knowledge. The current study employs a social network perspective to map the knowledge seeking behaviors of IT workers in project teams. The outcome of interest in this study is whether an individual $i$ established a knowledge seeking tie with another individual $j$. However, study of such dyadic ties using traditional methods was often problematic because a group of individuals tends to develop ties with any other member of the group. As a result, dyadic ties between any two individuals cannot be assumed to be independent of one another (Krackhardt 1988). To resolve this problem, a matrix reflecting $i$’s knowledge seeking relationship with $j$’s is investigated to address the research question about individual-level KS ties.

**Antecedents of Knowledge Seeking**

Recent work in the area of social networks by Krackhardt (2010) brings forth three key factors that explain why individuals choose particular others to form a relationship. The first salient factor is homophily, which refers to similarity between individuals from similar demographic characteristics to similar deep values. The second salient factor is propinquity, which refers to the physical distance between two individuals. The third salient factor is affect, which refers to a liking for another individual. Literature indicates that people tend to form relationships with others who are similar to themselves (homophily), who are closer (propinquity), and who they like (affect). Hinds et al. (2000) found that homophily, reputation for competence, and familiarity predicts the choice of group members. In a working study by Cummings and Kiesler (2011) tested three mechanisms that increase the probability of two researchers working together: familiarity (prior collaborating experience), proximity (physical distance), and homophily (similarity of disciplines). These researchers found that prior experience working together is critical for collaborations that cross geographic and disciplinary boundaries, suggesting the importance of familiarity. Another study by Borgatti and Cross (2003) examined the influence of the seeker-provider relation on information seeking probability. They found that knowledge of the provider, access to knowledge, and seeking cost were all determinants of information seeking probability and learning outcome, while knowledge of the provider and access to knowledge are moderators of the relationship between physical proximity and information seeking.

The proposed research model shown in Figure 1 synthesizes these findings in the social networks arena. In consonance with suggestions in the literature discussed above, we explore the role that prior friendship ties, shared team membership, and gender similarity play in forming knowledge seeking ties as they reflect affect (friendship), propinquity (shared team membership), and physiological homophily (gender) between two individuals, respectively.

Prior friendship ties and shared team membership also reflect the prior relational and cognitive social capital, respectively, that an individual $i$ holds with respect to another individual $j$ (Nahapet et al. 1998). Shared team membership reflects a cognitive social capital because it is more instrumental in nature focused on immediate team-project related tasks at hand. A friendship tie, on the other hand, is much broader and reflects a more affect-based, long-term relational tie.

Although KS behavior of individuals could be driven by other lower-level individual characteristics (e.g.,
personality, gender, education, and position) and higher-level structural characteristics (e.g., the density of the network in which individuals are embedded, etc.), we include the above three relational characteristics in our model for two reasons. First, there is little knowledge about the relational antecedents of KS behavior and our model of relational antecedents can help improve understanding of the “explanatory mechanism relating what people learn about each other to information-seeking behavior” (Borgatti et al. 2003, p. 433). Second, and also quite important from the perspective of this study, the three antecedents are more prone to national cultural differences and can help shed more light on whether any differences in KS behaviors exist between US and Singapore samples.

**Prior Friendship Ties**

A friendship tie between two individuals often indicates a higher level of familiarity and the affect-based trust between them. Familiarity refers to the level of interaction two individuals have had with one another in the past. Greater familiarity will help individuals predict how the other will behave in the future (Goodman et al. 1991; Hinds et al. 2000). According to Borgatti and Cross (2003), the motivation to seek information from a particular individual is influenced by whether the seeker perceives the expertise of the target, his/her perceived value of this expertise, the access of this target and the cost of seeking information from this target. When two individuals are friends, they tend to know each other better in terms of both their knowledge as well as their willingness to help. Accordingly, the seeker is more likely to identify the useful expertise owned by his/her friend. Moreover, a friend is more accessible and more willing to provide instrumental and emotional support, resulting in a lower cost of seeking help on specific knowledge issues. Therefore, we hypothesize:

**H1:** People will seek knowledge from others with whom they are friends.

**Shared Team Membership**

Team members are gathered by shared goals. Further, the proximity between team members is also greater due to the higher degree of interactions on instrumental project-related tasks. When Lewin and his students started to study group dynamics, proximity was only regarded as the physical distance between individuals (e.g., Strodbeck et al. 1961). Then, as organizations began to be studied using the production framework (e.g., Thompson 1967), proximity was also defined in terms of work flow, task interdependence, and coordination needs (e.g., Kmetz 1984). Today, with the development of information technology that helps us communicate instantaneously and virtually on a 24 x 7 basis, proximity can be conceptualized as a “perceived” construct in terms of individual perceptions of how close or far another person is regardless of the actual physical proximity or distance (Wilson et al. 2008). Given IT workers’ relatively higher level of familiarity with various kinds of latest IT-based communication tools, we accepted the premise that proximity is not only determined by physical distance but can be a perceptual construct. In a team-based IT project, team members tend to be more accessible to one another as they have to communicate frequently to accomplish their common project goals, either using face-to-face meetings or virtual meetings, or using emerging social networking tools such as Twitter. These possibilities lead to higher levels of proximity among team members, whether physical and/or perceived, due to a high degree of interdependence and interactions within a team. Given such proximity, individuals are more likely to know what their team members know, which leads to better knowledge about the expertise distributed within their team. Thus, individuals should be more motivated to seek knowledge from their team members as they know what they might get from those team members in terms on new knowledge and it is also easier to access one’s own team members. Hence, we hypothesize:

**H2:** People will seek knowledge from others with whom they share team membership.

**Gender Similarity**

The theory on homophily suggests that people are more likely to interact with others who are similar to them on characteristics such as demographics and beliefs (Ibarra 1992; Lincoln et al. 1979; McPherson et al. 2001). We focus on gender similarity as this type of similarity is more comparable between the US and Asian cultures and also directly relate to cultural differences that may emanate from gender stereotypes. According to Lincoln and Miller (1979), demographic homophily fosters trust and reciprocity and
enhances instrumental relations. Hinds et al. (2000) argued that demographic similarity increases ease of communication and predictability of future, which should facilitate the establishment of instrumental ties. However, these authors did not find support for the hypothesized relationship between gender similarity and the choice of working partner; in fact, they found a slightly negative relationship after 3 to 4 years. They suggested that these findings were consistent with Lincoln and Miller’s (1979) statement that gender is less important in forming instrumental ties. Further, interactions that are usually facilitated by gender similarity tend to be more social in nature, such as hanging out, finding emotional support, etc. In the current study, we are concerned about an instrumental knowledge seeking tie which is formed to get useful knowledge from another individual, and not a social tie focused on affective aspects. Based on all these findings and suggestions in the literature, we argue that ease of communication and trust that emanate from gender similarity may not be helpful in knowing others’ expertise or establishing trust on others’ competence because knowledge is gender-free. This may be especially true in current times when men and women are both becoming similarly educated and employed in both the US and Asian cultures. Therefore, we hypothesize:

**H3:** People’s tendency to seek knowledge from others will not be influenced by the gender similarity between the seeker and the target.

### Interaction of Prior Friendship Ties, Shared Team Membership and Gender Similarity

Social network researchers have tested the role of weak versus strong ties in getting information and social support. Granoveter (1973) suggested that weak ties, which refer to less frequent interactions and weaker bonds, are more likely than strong ties to create bridges to diverse groups of people, thereby leading to more novel information. Knowledge seeking, however, is not merely getting novel information of a wide variety. Instead, knowledge seeking in the context of IT projects is usually intentional and focused on particular knowledge that is relevant to a specific task on hand. Researchers have found that strong ties are more important in transferring such tacit, complex knowledge across unit boundaries within an organization (Hansen 1999; Krackhardt 1992). Thus, we argue that a prior strong relationship between two individuals is more likely to facilitate knowledge seeking behavior than a prior weak tie because strong tie indicates better understanding of each other’s expertise as well as a shared language that is useful in understanding the complex knowledge being sought. Similarly, a strong tie implies less cost in seeking new information because the strong relationship is based on the exchange of multiple resources, physical and emotional, and the seeker can expect to return the favor of sought knowledge with what they feel more comfortable at a later time. In the current study, the overlap of two prior relationships – friendship tie and shared team membership – can be treated as a strong tie. The former is more relevant to expressive functions, such as social support and approval, while the latter is more relevant to particular tasks and is, thus, more instrumental. A joint tie, therefore, will afford more opportunities for deeper and frequent interactions, thereby leading to a strengthening of the relationship between the two parties. Accordingly, we hypothesize:

**H4:** People will seek knowledge from others with whom they are friends and share team membership.

Contrary to the findings about gender similarity discussed above (while developing H3), Cross et al. (2001) suggested that individuals may tend to seek knowledge from people of the same gender in the context of knowledge transfer due to their shared perspectives and communication styles. The underlying reasoning behind this argument is that this ease of communication between individuals of the same gender will make them feel it is less costly to seek knowledge from the same gender. However, findings in the literature have not borne this out. We argue that the similarities in communication styles and perspectives resulting from gender similarity may in themselves not be strong enough to impact the formation of instrumental KS ties, but may actually reduce the cost of formation of KS ties when such formation is driven by other factors such as prior friendship ties and shared membership. Reduced communication costs resulting from the same gender may make it more likely that when two individuals are friends or are in the same team, they will seek knowledge from each other when they are of the same gender than when they are of different genders. Accordingly, we hypothesize that:

**H5:** People will seek knowledge from others with whom they are friends and are from the gender group.  
**H6:** People will seek knowledge from others with whom they share team membership and are from the same gender group.
Methods

Sample

To be able to meaningfully address the proposed research questions, the study was designed and conducted as a multi-period study to assess the extent of new knowledge ties that develop over time. However, access to IT professionals and systems development teams in the industry, especially for multi-period studies, is quite difficult for two reasons. First, current economic conditions with high unemployment rate have put more work and time demands on the remaining IT professionals in companies. Second, the composition of IT teams does not remain very stable and team members join and leave teams as their contributions to a project are completed over shorter time windows. Therefore, it was decided to conduct this study in a university environment using teams of students involved in systems development activities that are in many ways similar to the activities of real-world IT professionals. Unlike real-world teams, these student teams are, however, stable during the course of a semester and take an IT project from inception to a predefined conclusion, affording the research team the opportunity to conduct a longitudinal study to empirically evaluate the research model proposed in the study. As a result, the study was conducted at a large public university in the northeast US and its Singapore campus.

Subjects were undergraduate students enrolled in the required Introduction to Management Information Systems course. The US sample included students living in the US and enrolled in the US campus while the Singapore sample consisted of students living in Singapore and enrolled in the Singapore campus. Students from the US campus only interacted with their US classmates, and so did the Singapore students. The instructor of this course is not an author and graciously provided access to his class for conducting this study. At the beginning of the semester, students were randomly assigned by the instructor to one of 121 project teams of mixed gender and ethnicity. Most teams consisted of four or five students. However, one team consisted of two students, three teams consisted of three students, and eight teams consisted of six students. Each team was required to work together to create a small, but fully functional database system using Microsoft Access. Participants were required to work as a team of consultants for this project and were asked to find a situation, problem, or opportunity in a real-world small community organization to use as a basis for their project. The end result would be a well-designed, user friendly database system that creates business value for the organization they selected.

In total, 409 students participated in the first wave survey that was conducted one month after the beginning of the semester and 398 students participated in the second wave survey that was conducted two and a half months after the beginning of the semester. There were 372 students who completed both waves of the survey. After removing respondents who provided incomplete information, the US sample included 281 respondents, while in the Singapore sample included 75. These analyses were performed using a group of 281 × 281 matrices for the US sample, while a group of 75 × 75 matrices were employed to conduct corresponding analyses for the Singapore sample. Demographic information about the two samples is provided in the Appendix.

The data collected in this study are dyadic; that is, they reflect a relationship between two individuals. To examine the choice of the seeker, dyadic matrices were created for our independent variables and for the dependent variables in the study. The matrices reflect i’s relationship to j in all cases.

Measures

Knowledge seeking ties: Using the roster method, each respondent was asked in the second wave survey to choose their classmates from whom they sought any type of knowledge about the project any time prior to the survey time. Data were coded into a knowledge seeking matrix which represented whether or not person i indicated that he or she sought knowledge from person j. Each row in this matrix, therefore, represents those people chosen by person i with a “1” and those people not chosen by person i with a “0”.

Prior friendship ties: Each respondent was asked in the first wave of survey to choose their classmates with whom they are friends, again using the roster method. Data were coded into a friendship ties matrix which represented whether or not person i indicated that he or she is a friend with person j at survey time. Each row in this matrix, therefore, represents those people chosen by person i with a “1” and those people not chosen by person i with a “0”.

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Shared team membership: We received team membership information for all respondents from the course instructor. Data were coded into a shared team membership matrix which represented whether person $i$ and person $j$ were from the same project team. A cell $ij$ was coded as “1” if two respondents were assigned to the same project team, otherwise “0”.

Gender similarity: Each respondent was asked to provide their gender information in the first wave of survey. The data were coded into the gender similarity matrix which represented whether person $i$ and person $j$ were from the same gender group. A cell $ij$ was coded as “1” if two respondents were both male or female. Otherwise, the cell $ij$ was coded as “0”.

Interaction of prior friendship ties, shared team membership, and gender similarity: To get a matrix that represents the interaction of any two variables, we added one matrix with the other one. For example, to arrive at the matrix that represents joint prior friendship tie and shared team membership, we added the latter matrix with the former one. Therefore, in each cell of the new matrix, the various values indicated one of the following cases: (1) Value “0” means there was neither a friendship tie nor shared team membership between person $i$ and person $j$. The strength of tie is the weakest. (2) Value of “1” means there was either a friendship tie or shared team membership between person $i$ and person $j$. The strength of tie is moderate. (3) Value “2” means there was both a friendship tie and shared team membership between person $i$ and person $j$. The strength of tie is the strongest. The interaction of prior friendship ties and gender similarity as well as the interaction of shared team membership and gender similarity were also calculated in the same way. In each cell of the two matrices, a value of “0” means that person $i$ and person $j$ are from different gender groups, and there was no other relationship between them. A value of “1” means that there was either a prior relationship between person $i$ and person $j$ (e.g., a prior friendship tie or shared team membership) or person $i$ and person $j$ are from the same gender group. A value of “2” in these matrices means that person $i$ and person $j$ are from different gender groups and they are also prior friends (or team members).

Data Analysis

This study used UCINET’s Quadratic Assignment Procedure (QAP) correlation and multiple regression techniques (Borgatti et al. 2002) to analyze the impact of the predictors on KS ties. The QAP multiple regression, similar to ordinary multiple regression, enables analysis of matrix data. Because social network matrices include information about interdependent relationships among actors, the data typically suffer from an autocorrelation problem that plagues relational data and that ordinary least square (OLS) regression is not able to handle without the use of advanced models and correction for autocorrelation. QAP provides a nonparametric test of the relationship among two or more matrices, thus overcoming this autocorrelation problem (Krackhardt 1987; Krackhardt 1988). This procedure was developed based on the suggestions by Hubert and others (Baker et al. 1981; Hubert et al. 1976). The unstandardized coefficients and $R^2$s obtained in QAP are reported in the results section, and can be interpreted in the same manner as regression coefficients and $R^2$s from OLS (Shah 1998).

Results and Post-Hoc Analysis

Results of the hypotheses 1 to 6 are shown in Table 1. As hypothesized, a prior friendship tie positively predicted a knowledge seeking tie at a later time ($B_{US} = .28$, $p < .01$; $B_{Singapore} = .44$, $p < .01$). The positive effect of shared team membership on KS tie, as proposed in Hypothesis 2, however, was only supported in the US ($B_{US} = .46$, $p < .01$). In Singapore, the impact of shared team membership on future knowledge seeking behavior was negatively significant ($B_{Singapore} = -.03$, $p < .05$), suggesting that individuals in Singapore were less likely to seek knowledge from their team members. Hypothesis 3 stated a null effect of gender similarity on knowledge seeking behavior and this was only supported in the US sample ($B_{US} = .00$, n.s.). In Singapore, we found an opposite effect again. The influence of gender similarity on knowledge seeking was negatively significant ($B_{Singapore} = -.02$, $p < .01$). This suggests that individuals in Singapore are less likely to seek knowledge from people with the same gender. There three factors in total explained 33 percent and 22 percent of the variance in the choice of knowledge seeking ties in the US and Singapore, respectively. Hypothesis 4 suggested the interactive effect of prior friendship ties and shared team membership. Results indicate that as the strength of relationship between person $i$ and person $j$ changed from 0 to 2 (no prior tie to both friendship and team ties), the likelihood of the existence of a
knowledge seeking tie significantly increased ($B_{US} = .38, p < .01; B_{Singapore} = .59, p < .01$), suggesting that the existence of shared team membership made the positive relationship between prior friendship ties and knowledge seeking behavior even stronger. Thus, hypothesis 4 was supported in both samples. Hypothesis 5 suggested the moderating effect of gender similarity on the influence of prior friendship ties. We found significant interaction effects in both samples ($B_{US} = .01, p < .01; B_{Singapore} = .06, p < .01$). It means that when two friends are from the same gender group, one is more likely to seek knowledge from the other, supporting hypothesis 5. Last, hypothesis 6 suggested the moderating effect of gender similarity on the influence of shared team membership. Opposite effects were found in two different samples ($B_{US} = .02, p < .01; B_{Singapore} = -.02, p < .01$). The findings from the US sample confirmed our hypothesis while the evidence from the Singapore sample suggested an opposite effect, i.e., when two team members are from the same gender group, one is less likely to seek knowledge from the other in the Singapore sample.

| Table 1. Multiple Regression QAP predicting $i$’s knowledge seeking tie with $j$ |
|---------------------------------|-----------------|-----------------|
| Prior friendship tie            | .28**           | .33**           |
| Shared team membership          | .46**           | .48**           |
| Gender similarity                | .00             | .00             |
| Friendship tie and team          | - .38**         | - .59**         |
| membership                      |                 |                 |
| Friendship tie and gender        | .01**           | .06**           |
| similarity                      |                 |                 |
| Team membership and gender       | .02**           | -.02**          |
| similarity                      |                 |                 |
| $R^2$                           | .33             | .32             |
| (sample size)                   | 281             | 281             |
| # of tie observations           | 78680           | 78680           |

* $p < .05$; ** $p < .01$; when testing Hypothesis 4, the main effects of friendship tie and shared team membership were not included in the interactive effects model as QAP procedures cannot deal with multicollinearity that the inclusion of main effects typically engenders. This reason also applies the test of the other two interactions.

| Table 2. Multiple Regression QAP predicting $i$’s knowledge seeking tie with $j$: The Interaction Effect of Gender on Gender Similarity |
|---------------------------------|----------------|
| Friendship tie                  | -.43**         |
| Team membership                 | -.03*          |
| Both Female                     | -.03**         |
| Both Male                       | .02            |
| $R^2$                           | .21            |
| $N$                             | 75             |
| # Observation                   | 5550           |

* $p < .05$; ** $p < .01$

This study provided three findings contradictory to our hypotheses. We discuss the negative impact of shared team membership and the interaction of shared team membership and gender similarity on knowledge ties in the case of Singapore sample in the discussion section. The other contradictory and interesting finding of this study pertains to the negative influence of gender similarity on knowledge seeking behavior in Singapore. To further understand this anomalous finding, an additional post-hoc analysis was conducted. We tested the impact of gender on the relationship between gender similarity and knowledge seeking behavior. We created two new matrices to represent gender similarity: one represented whether person $i$ and person $j$ were both males, and the other represented whether they were both females. We replaced the gender similarity matrix with the new matrices and ran a new QAP analysis with the Singapore sample. Results (see Table 2) indicate that when the two individuals were both females, one was less likely to seek knowledge from the other ($B = -.03, p < .01$). However, when the two individuals were both males, gender similarity was not a significant predictor of knowledge seeking tie. The results indicate a moderating effect of gender on the relationship between gender similarity and knowledge seeking behavior in Singapore.
Discussion

All the results presented above, both those that were expected and those that were anomalous, provide both repeated patterns and clear differences in KS behavior between the US and Singapore samples. The beta coefficient for prior friendship tie is much higher in the Singapore sample than the US sample (0.44 vs. 0.28, both significant at p < 0.01). However, in the case of shared team membership, the pattern reverses with the beta coefficient being positive and higher for the US sample as compared to the Singapore sample, which is negative and significant (0.46 vs. -0.03, respectively). These two patterns indicate that while relational social capital reflected in a friendship tie is more important and predictive of knowledge seeking behavior in Singapore, cognitive social capital reflected in an instrumental, shared team tie is more predictive of knowledge seeking in the US. We try to use individualism vs. collectivism differences (Hofstede 1984) in country-level cultures to explain the opposite effects of shared team membership. It is likely that because US is a typically individualistic culture, when it comes to knowledge seeking, the highly independent people in the US are more prone to using cognitive instrumental ties as a basis for forming KS ties. On the other hand, Singapore being a collectivist culture, actually relies upon friends as a source of knowledge rather than instrumental, short-term shared team membership ties. The overlap of prior friendship ties and shared team membership facilitated the establishment of future knowledge seeking ties, and this effect is much stronger in the Singapore sample suggesting that stronger prior ties have a stronger effect on KS ties in a collectivist culture than in an individualistic culture.

The null effect of gender similarity was found in the US but it was rejected in Singapore. This indicates that gender does not play a role in forming knowledge seeking ties in the US and a male can form a KS tie with another male or a female. The same applies for the females in the US. However, in Singapore, we found that individuals are less likely to seek knowledge from same-gender others. We also tested the potential influence of gender on the impact of gender similarity in Singapore, as an un hypothesized negative effect was found. Evidence indicated that, in Singapore, females were less likely to seek knowledge from females, while males did not have a preference or avoidance in developing same-gender or cross-gender knowledge seeking ties. This is a very curious finding and one that needs further theorizing to understand this difference. At this stage we are only able to make some conjectures about this curious finding. We know that women have only recently started gaining similarity and equal status to males in Asian cultures, which are usually male dominated. However, gender differences in Asian cultures have not completely melted away as they have, more or less, in the US. To become equal to men, women have to convey an image of strength, self-sufficiency, and superiority. Those women who want to compete with men for equality of power and prestige have to first compete with their own gender. Consequently, it may be rational for females not to seek knowledge from other females in Asian cultures lest they be perceived as weaker.

The results discussed above are preliminary and we hope to present full results at the conference, if our paper is accepted. First, we are planning to analyze the effect of sub-cultural differences, in terms of racial differences, on knowledge seeking behaviors within a macro, national culture. Second, we also wish to investigate how familiarity and proximity influence knowledge seeking from a structural perspective, instead of a relational one, and understand the impact of the structural characteristics of an individual’s social network (e.g., density and size) and this individual’s position in an entire friendship network (e.g., centrality and structural holes) on KS ties.

Appendix: Demographic Information

<table>
<thead>
<tr>
<th></th>
<th>Overall Sample</th>
<th>Within Group</th>
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<tbody>
<tr>
<td></td>
<td>US</td>
<td>Singapore</td>
</tr>
<tr>
<td>Gender (Females)</td>
<td>45.6%</td>
<td>79.7%</td>
</tr>
<tr>
<td>Age (Median)</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Race</td>
<td>White = 64.9%</td>
<td>White = 0.0%</td>
</tr>
<tr>
<td></td>
<td>Asian = 27.1%</td>
<td>Asian = 98.6%</td>
</tr>
</tbody>
</table>
References


