Understanding the antecedents of seeking advisors in team projects: The effects of relevance of previous work and multiple memberships on advice network centrality in team and the moderating role of transactive memory system

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Abstract

As the complexity and expertise of work within organizations increases, organizations are actively utilizing team-based projects and tasks. Therefore, the understanding of the team network for the efficient use of knowledge and information among the team members is highlighted. However, there is a lack of research on the factors that generate the network in the team, since the existing researches regard the structure of network as given and focus on the relationship with team performance. In this study, we will examine the primary factors for utilizing team knowledge based on a network perspective. Specially, we explain the importance role of the advice network for utilizing team members' knowledge, and we examine the effect of relevance of previous work and multiple membership of team members as the antecedents on advice network. Also, we identify the effect of the Transactive Memory System (TMS) as the certain contextual factor in the project team.

Keywords:

Social network**,** Advice network centrality, Knowledge utilization, Previous work, Multiple membership, Team project

1. Introduction

As increasing importance of knowledge and information as the resources of organizations, managing and controlling specific knowledge of the organization is one of the key factors to maintain competitive advantage. In particular, due to the increased complexity and specialization of tasks, the need of systems and management to utilize their knowledge effectively has been extensively emphasized. In the organization, the utilizing expertise within team projects through organizational learning, communication systems, and knowledge management encourages knowledge sharing, cooperation, and mutual learning among employees that stimulates the creation of novel ideas and knowledge. In addition, it contribute to organizational performances and innovation success. Therefore, organizations need to concentrate on understanding how their knowledge is shared and what the process is to make knowledge flow more effectively, particularly in the team, which is formed to conduct their strategy in the short run and long run (Alavi and Leidner 2001; Okhuysen and Eisenhardt 2002)

In the previous researches, utilizing expertise and knowledge has been explained by interaction among individuals, business units and organizations. Knowledge network of individual as the sources of social capital have a positive effect on the individual promotion and organizational innovation and effectiveness (e.g. Brass *et al.* 2004; Burt 1997; Coleman 1988; Dess and Shaw 2001; Seibert *et al*. 2001). In the researches of the team level, the team members have to know who has the valuable knowledge and information, further the integrating and the knowledge lead to creative and innovative performance and generate a synergy effect through the process of asking for advice (Lewis 2003). In addition, the networks of intra- and inter firm leads to higher organizational performance by acquiring various resources. Therefore, this view of social network in organization has been a powerful paradigm in management.

In the prior team network literature, the structure of individual's network is considered to be given, and it has been focused on the relationship between the feature of given structure and organization individual performance. Some previous studies with this structural approach show that individuals' social networks are affected by the embeddedness and structural condition of their teams and organizations (Bae *et al.* 2009). For instance, trust among the team members stimulate sharing information and knowledge through the high frequency with the interconnections among team members and the mutual relationships in the team which has the high density network as closure network (Coleman 1988; Leana and Van Buren 1999). In addition, Burt (1997) explained that individuals which are positioned on structural hole could transfer and acquire various information through connecting two or more different groups and these information could lead to innovative performance.

Although these specific features and structures of network are the major factors in organizational performance and individual creativity, there is a lack of studies on how individuals' networks are built in the workplace (Mehra *et al.* 2001). Monge and Contractor (2001) proposed the limitation that it has a tendency to more concentrate on examining a network's structural characteristics to predict performance rather than asking how individuals generate networks in organizations. Some previous studies indicate that personality (e.g. Big five personality traits) and demographic characteristics (e.g. gender, age, education, specialty, etc.) could be one of the antecedents, and it describes that individuals could make interaction based on homogeneity and diversity (Gibbons and Olk 2003; Klein *et al.* 2004). However, these antecedents may not be sufficient to explain how organizational members make their interaction which is related with their works and tasks, because these network could be formed based on other members' ability and knowledge which is relevant to their tasks.

For this reason, this paper briefly describes how the certain network is generated by team members to utilize knowledge and information in project team with the view of advice network. The advice network define as the relationship with team members or organization members which is reflect by the flow of team task knowledge and information, and the centrality of advice network is the degree of helping other team member and taking part in sharing knowledge with others (Sparrowe *et al.* 2001). Individuals who positioned in this centrality tend to more share their knowledge than other. In other words, the higher degree of his/her centrality signify that other team members ask more sharing his information and knowhow in project team.

Aside from this, as increasing the rapid environment change, some studies emphasize that organizations need to be aware of the volatility of the network structure in organizations and teams for utilizing knowledge and resources and describe the need to manage these in the organization (Parker *et al.* 2015; Smith *et al.* 2012) In particular, Smith *et al.* (2012) provide that individual's potential network could be influenced by actors' cognition and other researcher also discuss the cognitive effect of alters (Klein, Lim, Saltz and Mayer 2004; Menon and Smith 2014). While the studies referenced above focus on the importance of network structure, there is ironically very little understanding about the factor that can significantly determines the properties of structure. Some scholars also pose some peculiarities of network research such as the relative dearth of work on network antecedents, and they suggest that the work which is about explaining how and why organizations form ties and select partner need to become the dominant stream of research on the field of network (Borgatti and Cross 2003).

To address these research challenges in terms of effective utilizing knowledge and the antecedents of forming advice network, the purpose of this study is to address the factors as advice network centrality that implicitly influence the effective knowledge sharing, and the salient

elements of determining centrality in the team. Especially this study more focus on the specific situation as the new project team, due to reducing the embedded effect of network. The internal and external change of the context provides the opportunities individuals to build new network ties in order to fit it such as forming new project team (Hennart *et al.* 1998; Kim *et al.* 2006). Drawing from social network perspective, this paper concentrate on knowledge and expertise utilization among team members. This paper posits that member in advice network centrality is a proxy for expertise utilization. The purpose is to develop the antecedents of network generation for a class of networks in which an actor selects alters who are instrumental in achieving a desired performance by utilizing expertise. We explain these concepts specifically for the case of an individual forming his or her advice network centrality in team projects. First, a member's relevance of previous work is related with advice network centrality. A member may consider quality of expertise and knowledge that they receive when they seek advice from others (Nebus 2006), and thus, the member will approach to other members who are perceived as experts. In addition, high status members (e.g. multiple membership) are more likely to be in central positions in advice network. Expectation states theory suggest that people tend to infer ability of others from social characteristics, such that they expect high performance from high status members and defer their view to the high status members (Bunderson 2003).

Further, we present a contingency model in which the effects of expertise level and social status depend on the team context (e.g. transactive memory system; TMS). Transactive memory system is defined as shared mental model of knowing who knows what among team members (Wegner 1987). Under the high level of TMS, expertise will become a more salient and accessible cue to team members, and as a result, they will be more attentive to the experts. Yet, the low level of TMS may cause disagreement about who knows what and suffer identifying expert members in teams.

This leads non expertise related cues (e.g. social status) to be more noticeable factor for members seeking advice.

2. Literature review and Hypotheses

Advice Network Centrality

Most of the studies in social network generally describe the effect of organization, team and individual performances. Under this research stream, individuals' network could be regarded as the embedded form and relation in the social connections, and the structure and characteristics of individuals' ties have influence on the variables of performance such as turnover intention, individual incentives, creativity and organization commitment (Seibert, Kraimer and Liden 2001). However, with arising the notion of the dynamic network structure, some research attempt to address fluctuation of network structure rather static (Janicik and Larrick 2005; Smith, Menon and Thompson 2012), and they suggest that the fluctuating network structure results from the response to differing situation and psychological state. In particular, network variability at the individual level explains that an actor predicts the structure of a potential network by how it perceives the characteristics of alters. From this perspective, it is essential to study the leading antecedents that explain how individuals form a network (Shea *et al.* 2015).

With this point of view, the relatively important antecedents of network, in particular the centrality of network, represent the personal characteristics such as demographic characteristics and personality. These characteristics affect an individual's behavior, others' perceptions and the process to form the interaction with others. For example, gender, age and education represent individuals' social experiences, perception and attitude, then actors' expectation and impression that related with

alters come from these demographic characteristics. Further, these characteristics also determine similarity as a factor that influences the centrality within the network (Jackson *et al.* 1991). Five-factor model of personality gives the description to predict the position in social network. Asendorpf and Wilpers (1998) show the relations between big five personalities and the tendency of interaction. For example, extraversion as one of element in five personalities tend to play a roles as bridge and centrality within advice network, since extraverted person are likely to have larger friendship network (Asendorpf and Wilpers 1998). Aside from this, most of researchers, focused on the relation personality and social network, tend to identify the effect of personality on the position of network, and the main mechanism of the relation arise from cognitive activation. In other words, the forming network is likely to be seriously affected by actor's perception. If so, what is the perceived factor in project team that requires cooperation of team member to conduct complex task, in particular to seek valuable knowledge?

One of the major research trends in social networks is the relationship between location of individuals within the network and performance (Baldwin *et al.* 1997; Burt 1997; Mehra, Kilduff and Brass 2001), and also the studies which is related with centrality has been examined extensively. The centrality more facilitate the access to resources such as internal and external knowledge, therefore the actors on the centrality could achieves better performance (Burt *et al.* 2013). The centrality of the network is divided into two categories: betweenness centrality (brokerage) and indegree centrality. Indegree centrality defines as the degree of selected from others (Freeman 1979), and it is a representative indicator of individual's influence and accessibility to knowledge and resource in network (Kilduff and Brass 2010). In this approach of instrumental network, individuals who have higher indegree centrality within the advice network could obtain and accumulate knowledge and information related to work.

Social networks are also generally divided into friendship networks and task advice networks (Ibarra 1993; Sparrowe, Liden, Wayne and Kraimer 2001). This classification focus on that ego could choose different alter depending on content of the information (Shah 1998). The information related with jobs, such as knowledge and skill, is obtained through structurally equivalence (e.g. task advice network), while organizational information such as norm and cultural information is obtained through cohesive equivalence (e.g. friendship network). For these aspects, the factors that determine the choice of interaction among team members is based on the cue related with the level of team members' abilities and knowledge quality. When the organization must change due to various factors such as crisis, organizational strategy and the emergence of team project, individuals are likely to face the new interconnection. In this situation, individuals may catch the new perception of alters depend on the purpose that is caused by certain situation and change.

Relevance of Previous Work and Advice Network Centrality

In the case of new project teams, team members tend to be hard to realize expertise level of each members, because the members of team project tend to consist of individuals who has different specialty and knowledge and they could not have the opportunities to interact each other. However, if the prior experience or task of a team member is more relevant of the current task, the members seeking advice tend to seek task related advice from this particular team member, because they may be highly aware of the expertise level of this team members. Bandura's social leaning theory describes that individual's previous experiences are deeply related to how and individual behaves in certain situations. Furthermore, organizational learning research explains that individuals' previous learning and experiences affect leaning new knowledge and experience (Beyer and Hannah 2002; Rynes *et al.* 1997). In this respect, previous work experience has a positive effect on

individual performance. In particular, new employees who experienced relevant work previously could achieve not only more creativity but also higher performance, because they have higher autonomy on their job and they use and apply their knowledge in the task immediately (Gino *et al.* 2009). For this reason, Almeida *et al.* (2003) mention that previous work experience is a proxy for knowledge.

For higher performance of organization, employees of the organization need to readily recognize properties of knowledge and utilize knowledge (Moreland and Myaskovsky 2000). Most previous research which describes the knowledge utilization mentions the process to seek useful information. In terms of the function of advice network which is represented as solving problem and sharing information, the perception of the level of other members' expertise is a significant factor to build the advice network . Drawing from expectancy theory, Nebus and Chai (2014) explained that the forming advice network to seek advisers in the organization seem to be the decision making process. Expectancy theory proposes that an individual will behave or act in a certain way to what they expect the result of that selected behavior will be. The decision to seek an adviser will be related with the belief that the certain adviser who is selected by other members provides the useful and valuable knowledge and information. This aspect shows selecting member as an adviser could be related with the relevance of previous work that they (alters) has. Since the level of members' expertise are varying in the same team, the member attempts to ask another certain member for advice selectively rather than randomly (Lin *et al.* 1981; Seibert, Kraimer and Liden 2001). The project team aims to achieve higher performance than individuals by not only using individuals' capabilities but also utilizing the knowledge of other team members such as the synergy effect. Therefore, team members should be aware of other people's knowledge through relevance of previous work and should be able to use it quickly at the right time. In recent research,

since the perceived alters' relevance of previous work is one of important factor to seek advisers (Hong and Gajendran 2014), the member who are perceived by other as having high level of expertise has more frequency that they receive requisition from other member team is much more than other members (Chung *et al.* 2011). That is, the instrumentality that is offered by the certain adviser who is selected by advisee could be one of the criterions at advisee's decision, and the centrality of a member who has more relevant previous work will be higher in advice network. Therefore, we hypothesize the following.

Hypothesis 1: A member's relevance previous work will be positively related with advice network centrality.

Multiple Memberships and Advice Network Centrality

In organization, various project teams could be existed with different goals concurrently and a team member who has specialty participated in multiple teams (Cohen and Bailey 1997). Organization carry out variety of team projects to improve performance through utilizing slack and human resources efficiently (O'leary *et al.* 2011). Multiple team memberships defined that individuals belong to many different teams and work on various projects (O'leary *et al.* 2011). The previous research most relevant to multiple membership concentrate on the boundary spanning on team level (Joshi *et al.* 2009). These studies explain how team members' boundary spanning activity can affect team emergent states and the processes and individuals' cross boundary role and activities can also affect team performance since they relatively little pay attention to each team task on the multiple team context (O'leary *et al.* 2011). However, other studies mention that multiple team membership could bring not only positive effects on individual performance since they can learn

various task, roles and routines which are more potentially valuable. Individuals who work on multiple team project have benefits such as forming more social interaction and accessing various information and resources. In addition, the degree of their visibility can be increased in the organization. Team members working on multiple teams have more opportunities to be known in the organization because they work with different team members. Since this visibility often signify individual status, status getting through multiple team membership is a key factor affecting the interaction with team member in the aspect of network (Berger *et al.* 1972; Krackhardt 1990; Ravlin and Thomas 2005).

Individual's social status consideration seems to play a very prominent role in advice relation. In organization, the status is defined as individual expertise and competence and there generally seems to exist some consensus about who has status (Krackhardt 1990). In organization, such status stratification processes are a very common phenomenon (Ravlin and Thomas 2005), and it is a factor which is easily observed among team that determine coworkers' identification or characteristic. Based on expectation state theory, it argues that individuals consider characteristics of other actors to evaluate their social value and form expectation about capabilities and performance base on status characteristics, furthermore, the mutual interaction among members of the team or organization can depend on the expected level of alters' performance (Correll and Benard 2006). Individuals possessing certain attributes or characteristics that believed to be associated with greater competence are influential in shaping the attitudes and behaviors of others (Berger, Cohen and Zelditch 1972). An individual's status characteristics often relate to technical expertise, also more general attributes such as gender, education, occupation, class, and tenure can lead to expectations of competence across a wide range of social situations (Ridgeway 2001). Within task groups, individuals come to share beliefs about the status value of specific and general

attributes important for the task. The distribution of valued attributes among team members leads to a status gradient, or rank ordering of status among group members. High-status members are more influential than low-status members and should be considered a valuable source of advice (Ridgeway *et al.* 1998).

Accordingly, the advisee perceives the information of an advisor who they selected that is more persuasive and legitimate (Copeland *et al.* 2008). Although the certain member does not have enough capabilities to achieve higher performance and their performance is not actually higher than the expectation, multiple team membership (e.g, social status) can be a cue to evaluate their performance and ability. In light of the aforementioned reasoning, the following hypothesis was posed.

Hypothesis 2: Multiple memberships (A team member who is belong to multiple teams) will be positively related with advice network centrality.

Transactive Memory System

This paper argues the role of transactive memory system (TMS) as the context variable in organization. As discussed in hypothesis 1 and 2, the characteristics of team members (e.g. relevance of previous work and multiple membership) and the centrality of the advice network will have a positive relationship. However, this relationship is likely to be different depending on the team's situational characteristics (TMS level). TMS was introduced by Wegner's study as a concept to explain the cognitive model of the team (Wegner 1987). Transactive memory system is defined as the shared division of cognitive labor with respect to the encoding, storage, retrieval, and communication of information from different domains that often develops in the relationship

(Wegner 1987). In other words, TMS is the consensus or meta-knowledge about knowing who knows what among employees (Brandon and Hollingshead 2004; Lewis 2003). In the earlier study, TMS were mainly focused on collective memory between two couples and the experiments exemplified the advantages of this collective memory system (Wegner *et al.* 1991). This experiment was conducted to study the effect of collective memory through comparing two different couples. One was a couple who had been dating for more than three months and another was a couple who were randomly assigned. The results of the experiment showed that the former who had been dating for more than 3 months received higher scores in the collective memory test. The former already formed the tacit consensus reflecting who know what such as the area of expertise and information that was related with the experiences or knowledge of each member, and then the new information could be selectively adapted depending on their consensus.

In a team based study,) conducted an experiment on radio assembly kits, comparing between a team that was individually trained in the radio assembly training and another team that all team members were trained together. This experiment showed that the latter could perform better than the individual trained team. This is because that the team members had a tacit agreement through the group training that provided the opportunities to recognize and share the capabilities of each member. These previous studies has given the evidence that the higher level of TMS could enhance the efficiency of facilitating overall knowledge by building tacit consensus, that is to say TMS is a cognitive consensus among team members about 'who knows what', beyond simply recognizing 'who knows what'. Therefore, the organization can increase the effectiveness of knowledge sharing or knowledge transfer in team and organization, because members already know where they can absorb the useful and valuable knowledge.

The role of TMS in terms of organizational context could be explained by identity salience of

social identity theory. According to the social identity theory, the individuals' social identity is determined by various social categories to which they belong (Fiske and Taylor 1991; Hogg and Terry 2000), and the salience of certain social category could influence the people' accessibility and fit toward organizational context (Ashforth and Mael 1989). Individuals may form their own identity according as the feature of their organization to which they belong, and sometimes they define their own identities by gender category. Some of individuals recognize their identities depending on the characteristics of their own department within the organization. There are various categories within society and organization that serves as the origin of the identities, and the categories that form these social identities can be remarkable depending on the certain context in organization. Hogg and Terry (2000) argue that the salience of certain category that shape people's identities could be subject to the contextual factors of the team or organization to which they belong. Specifically, the higher accessibility and fit toward the certain category increase the salience of this category, and this category has much more significant effect on building identity.

In this regard, this study assume that the relevance of previous work and multiple team memberships of team members are a social cue, and this study suggest that TMS as a certain contextual factor has influence on the salience of these social cues. In other words, the high level of TMS makes expertise and knowledge quality of tem member more salient, and the positive relation between the degree of previous work relevance and the centrality of advice network may strengthen. On the contrary to this, high level of TMS makes multiple team membership of team member less salient, and the positive relation between the social status and the centrality of advice network may attenuate.

In addition, in low level of TMS, since the information that explains who know what is unclear and the consensus is not high, the accessibility of knowledge and expertise will decrease. Whereas,

in the high level of TMS, since it is able to specialize and coordinate members' expertise, utilizing knowledge will extensively increase. In this respect, high level of TMS seems to more emphasize level of team members' relevant knowledge than individuals' status. Therefore, we hypothesize the following.

Hypothesis 3: Transactive memory system will moderate the positive relationship between a member's relevance of previous work and advice network centrality, such that the relationship will be stronger when TMS is high than when it is low.

Hypothesis 4: Transactive memory system will moderate the positive relationship between multiple team memberships and advice network centrality, such that the relationship will be weaker when TMS is high than it is low.

Insert Figure 1 about here

3. Data and methods

We conducted our study at the two different universities in Korea. The participants were undergraduate students enrolled in four different courses sections. All of the students actively participated in this survey. At the beginning of the semester, the instructor randomly assigned students to one of 31 project teams, each consisting of four or five students. During about 13 weeks, each team had to find the issues which is related with the subjects of the courses and propose the solutions at the end of the semester. This projects had the purpose to share and integrate team members' knowledge and expertise and generate creative ideas. In addition, each class included participations with various majors. Each of the team members had the discussion every week in the

class and some of the team had a meeting out of hours to carry out the projects.

Data were collected in one time and students were surveyed using a paper survey in the class and three weeks before the end of the semester. The survey had 117 participants from 31 teams. Because network analysis requires a high response rate (i.e., more than 80% respondents) (Sparrowe, Liden, Wayne and Kraimer 2001), five teams were excluded. The final analysis included 95 respondents from 26 teams.

Measures

We choose items from the scales in the extant literature to measure construct in this study. All the items were originally in English and we followed the back-translation process to ensure the quality of the measurement. In addition, the questionnaires were revised to fit on university context.

Relevance of previous Work

In the previous researches, relevance of previous work was measured using individuals' work carriers (e.g. job code, industry code) and prior occupational experience was measured using a single item self-reported measure that asked the respondents the number of years and months they had worked in other studies (Carr *et al.* 2006; Castilla 2008; Dokko *et al.* 2009). In this study, we were used to measure relevance of privies using single-item adapted from Chrisman *et al.* (2005). Likert-style answering format was used, with five-point relevant experiences ranging from 1 (strongly disagree) to 5 (strongly agree).

Multiple memberships

The multiple membership include three dimensions such as the number of teams, variety of teams and time pressure, and these dimensions considerably affect individuals' behaviors such as

individual productivity. Based on this explanation, we adapted three items selected from O'leary, Mortensen and Woolley (2011) to measure multiple memberships using a 5-point rating scale (1= strongly disagree, 5=strongly agree). Example items include the following: "Do you participate on different team projects simultaneously?" and "Do you think that each projects that you are attending require various knowledge?"

Advice network centrality

Two items adopted from Sparrowe, Liden, Wayne and Kraimer (2001) were used to measure Advice network centrality. One sample question is, "Whom do you go to for help or advice on work-related matters?" Each respondent had a list containing all his or her team members' names and corresponding codes to help with their recall. Each respondent was asked to write down the codes representing his or her answers to the questions. The scores of normalized in-degree centrality were calculated using the measurement of Freeman (1979).

Tranactive memory system

Transactive memory system as team level variable were measured using fifteen items from Lewis (2003). This measurement was developed based on the theoretical study of Wegner (1987) and Liang *et al.* (1995). Transactive memory system include three sub-dimension such as specialization, credibility and coordination. Likert-style answering format was used with five-point alternatives ranging from 1 (strongly disagree) to 5 (strongly agree). One sample item is, "I have knowledge about an aspect of the project that no other team member has." To assess the overall team' transactive memory system across a group, we averaged team members' evaluation of their individual intention to TMS of a team. The computed ICC(1) and ICC(2) values for intention to the

team's TMS were .22 and .53, respectively. These values were well above acceptable levels (Bliese 1998; Glick 1985). Thus, the aggregated measure of TMS was justified.

Control Variables

First, we controlled for familiarity within team members since the features of individuals' relationship have influence on the network centrality (Brass, Galaskiewicz, Greve and Tsai 2004). The informal interaction tend to generate formal network within team members. For measuring familiarity, we selected items from Lewis (2004) and Gruenfeld *et al.* (1996) and a team member measure the level of familiarity with each members using a 5-point rating scale. Furthermore, the individual characteristics were used control variables including proactive personality, demographic variables such as gender and age because these variables would have effects on the generating network. Team members would have a perception that a member who are older has expertise since advice network focus on seeking the adviser to request the valuable knowledge. In addition, they tend to aware that a proactive person could have much chance to acquire various and new knowledge (Seibert *et al.* 1999). Finally, the team size was controlled because team size.

4. Results

Because individuals in our sample are nested within teams, we used the hierarchical linear modeling (HLM) procedure suggested by Raudenbush and Bryk (2002) with the HLM 6.0 statistical software. The means, standard deviations and correlations for the study variable are shown in Table 1. In Table 2, we show the results of HLM analyses. We checked whether team-level differences existed in the advice network centrality variables using the null model in hierarchical linear models.

This analysis yielded non-significant variance of advice network centrality variables across teams.

Insert Table 1 about here

In this paper, hypothesis 1 predicts that team members' relevance of previous work would be positive related to advice network centrality. As shown on model 2, relevance of previous work had a significant, positive relationship with advice network centrality ($\beta = .77$, $p < .01$). Hypothesis 2 predicts that multiple membership would be positively related to advice network centrality. In model 2, multiple membership was significantly related to advice network centrality ($\beta = .67$, $p < .01$). Therefore, Hypothesis 1 and 2 was supported.

Hypothesis 3 predicts that the positive relationship between relevance of previous work and advice network centrality will be stronger when TMS is high. On the other hand, Hypothesis 4 predicts that the positive relationship between multiple membership and advice network centrality will not be stronger when TMS is high. As shown in model 4 in Table 2, the interaction between relevance of previous work and TMS was non-significantly and positively related to advice network centrality ($\beta = .19$). The interaction between multiple membership and TMS was not significant but negatively related to advice network centrality ($\beta = -1.19$) in model 4. Thus, Hypothesis 3 and 4 was not supported. There is a limitation to explain the interaction effect of TMS because average of TMS was 3.8. It could not sufficiently represent the characteristics of the team. However, in Table 2, this result has the potential effect of TMS due to the decreased value of model deviance.

Insert Table 2 about here

5. Discussion

Although previous research has demonstrated a relationship between network structure and instrumental outcomes, relatively few studies have explicitly examined the antecedents that determine the network structural position for leading desired performance (Nebus 2006). Particularly, when the team project was recognized as an important success factor of the organization, there was a lack of discussion about how the team members form and organize the network within the team. In this point of view, this present study proposes how employees build their network structure and what factors impact on their decision making to form their relationship.

In addition, this paper focus on explaining the direct predecessors that determine the advice network, furthermore, the contextual factors of the team influencing the formation of the network are presented through the theoretical mechanism of the salience of identity. The accessibility and fit of the particular identity that is emphasized by the team reflect the team's contextual factors. In this study, seeking adviser be determined by the characteristics of the individual, but the feature(contextual factors) that are prominent in the team makes seekers easier to access specific characteristics of the alters, and the effect on decision making to select advisers is identified theoretically.

Finally, this study will provide practical implications for the successful management of the project team to achieve better performance. The main contribution of the research finding is that organization concerns regarding the management system of retaining and encouraging experts to exploit their knowledge effectively. In addition, other variables which are unrelated to substantive feature of determining the quality of knowledge should be considered and perceived in knowledge sharing. Actually, when employees find certain knowledge and ask appropriate information, they are likely to choose a certain evaluator as an adviser based on the value of knowledge instead of

social status that includes reward and coercive power.

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TABLE 1

Descriptive Statistics and Correlations

	Mean	s.d.	1	2	3	4	5	6	7
Individual Level									
1. Advice network centrality	3.58	1.80	-						
2. Relevance of previous Work	3.66	.96	.682**						
3. Multiple memberships	3.54	.82	.666**	.665**					
4. Proactive personality	3.50	.56	-.034	-.189	-.166				
5. Familiarity	2.61	1.61	.500**	.486**	.581**	-.212*			
6. Age	22.03	3.02	.019	-.108	-.102	.169	-.332**		
7. Gender	.61	.49	.135	.281**	.262*	-.082	.184	-.222*	
Team Level									
8. TMS	3.84	.33							
9. Team size	3.85	.96							-.202*

Note. Members n=95. Teams n=26.
*p < .05, **p < .01.

TABLE 2

HLM Regression Models

	Null model		Model 1		Model 2		Model 3		Model 4	
	β	SE	β	SE	β	SE	β	SE	β	SE
Individual level										
Intercept	3.58***	.18	-2.11	1.91	-5.09	1.49	3.32**	.06	2.41*	1.13
Proactive personality			.17	.29	.35	.25	.21	.17	.20	.18
Familiarity			.83***	.14	.25·	.13	.17·	.11	.22·	.11
Age			.13**	.04	.06	.03	.03	.02	.03	.02
Gender			.27	.38	-.24	.26	.01	.27	.01	.03
Relevance of previous Work					.77**	.25	.49	.33	.48	.35
Multiple membership					.76*	.30	1.47**	.38	1.43**	.36
Team level										
Team size							-.22	.13	-.22	13
TMS							1.10*	.48	1.27**	.21
Cross-level interaction										
Relevance of previous work * TMS									.19	.95
Multiple membership * TMS									-1.19	1.20
Level 1 residual variance	3.1795		2.2419		1.32116		0.51088		0.50114	
Level 2 residual variance	0.0660		0.1719		0.10805		0.50996		0.51488	
Slope of Relevance of previous work							1.23996		1.3956	
Slope of Multiple membership							2.23584		2.3041	
Model deviance	381.823997		355.7426		310.2332		290.4079		285.7018	

Note. Members n=95. Teams n=26.
· <.1, *p < .05, **p < .01, ***p < .001

FIGURE 1

Research Model