

Opinion Leaders, Social Capital, and Innovations in Teams

SUNG-CHOON KANG*

*Seoul National University
Seoul, Korea*

TAI GYU KIM**

*Korea University
Seoul, Korea*

Abstract

The team-level innovation is critical for a team to consistently adapt to its changing environment by promoting its members' creative ideas and behaviors. Relying on the social capital perspective, the current paper investigates team-level innovation and offers a theoretical framework to explain the interactive effects of individual and team-level attributes on team innovation. We argue that the team-level innovation will be affected by the opinion leaders' social capital available from their external social relations and that such effects will be moderated by the team-level social capital that represents the cohesiveness and status similarity among team members.

Keywords: Team Innovation, Social Capital, Opinion Leader

* Main Author, Assistant Professor of Management, College of Business Administration, Seoul National University (sk229@snu.ac.kr)

** Corresponding Author, Assistant Professor of Management, School of Business, Korea University (kimt@korea.ac.kr)

INTRODUCTION

Team innovation has recently drawn much attention from scholars as an important source of team effectiveness in addition to traditional task performance and attitudinal and behavioral outcomes of team members (Goodman 1987; Sundstrom, McIntyre, Halfhill, and Richards 2000; Rosenthal 1996). A team as an open system cannot operate in social vacuums but rather functions in the socially constrained environment. As the external environment is constantly changing, a team is required to cope with such change by keeping a dynamic balance with the environment. A team's coping with changing environment is closely tied to its innovation capability to continuously acquire and integrate new idea and knowledge.

Team innovation can be defined as the process of adopting or generating of useful, new ideas and implementing or integrating them at a team level (Kanter 1988). Some of previous studies used innovation and creativity interchangeably (West and Farr 1990). However, creativity refers to the production of novel and useful ideas (Mumford and Gustafson 1988) while innovation is a multi-stage process that involves both idea generation and its implementation (Kanter 1988). Involvement in either knowledge (or idea) generation or implementation (or its integration) is viewed as innovative behavior in general since these stages are usually intertwined and mixed rather than discrete or sequential (Schroeder, Van de Ven, Scudder, and Polley 1989). Following this previous view, the current study assumes that knowledge generation and implementation interact to facilitate team innovation.

Prior studies sporadically investigated some predictors of team innovation. Among them were team attributes, leadership style, and team members' characteristics. For example, Burningham and West (1995) found that team climate variables, such as task orientation and support for innovation, had significant relationships with team innovation. Burpitt and Bigoness (1997) found that leader-empowering behaviors were significantly related with evaluations of team innovation made by the firm's principals. But, one of the most interesting findings from the current literature is the role of opinion leaders in team innovation. Lam

and Schaubroeck (2000) found that opinion leaders as influential peers, not formal leaders, within frontline employee groups served as effective agents to promote positive attitude toward a service-quality initiative and increase service-quality effectiveness. They attributed such findings to resource credibility occupied by opinion leaders.

The current study intends to theoretically extend the findings by Lam and Schaubroeck (2000) by offering a theoretical framework based on social capital perspective. Noting that social contacts, social interactions, and interpersonal communications play important roles in the adoption and implementation of innovation across and within social units (Burt 1987), we rely on social capital perspectives to investigate the roles of opinion leaders in initiating and implementing team-level innovation. Specifically, the current study highlights the roles of social capital of an opinion leader in adopting or initiating team innovation and identifies how an opinion leader's social capital interacts with the team-level's social capital that represents the cohesiveness and status similarity among team members to implement team innovation. In doing so, we first review the social capital theory which provides the basis of further theoretical propositions of the current study. Next, we explore the role of an opinion leader as well as that of his/her social capital with respect to team innovation. Then, we discuss how an opinion leader's social capital and the team's social capital interact to affect team innovation. Lastly, we conclude this paper with several theoretical and practical implications for managing teams and human resource management.

SOCIAL CAPITAL

As Snell (1999) puts it, "people do not work alone in the organizations; they combine their talents and energies to accomplish their goals." Organizations form a variety of work teams as an important mechanism to combine individual skills and knowledge to create organizational competence. A team is defined as "a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems, and who manage

their relationships across organizational boundaries” (Cohen and Bailey 1997: 241). This definition suggests that a key property of work teams is the interdependency among individuals who share responsibility for the outcomes of their work (Rosenthal 1996). The interdependency among individuals is not limited to the boundary of teams but rather often across it. Thus, the ways that team members interact with others within and/or outside the team affect team effectiveness.

The concept of social capital provides a useful framework to understand how internal and external relationships of team members affect team effectiveness including team innovation. Social capital can be defined as the set of resources, tangible or virtual, that accrue to an actor through the actor’s social relationships, and facilitate the attainment of goals the actor pursues (Gabbay and Leenders 1999). The social capital theory assumes that social actors behave rationally within the constraints of social relationships into which they are embedded, and not on individual economic rationality (Granovetter 1985). In other words, the social capital theory emphasizes that human behavior, attitude, and status are determined by the structures of social relationships around social actors. In addition to the structural consideration, social capital theorists emphasize the functional aspect of social capital, that is, specific benefits available through social relationships. In short, social capital refers to those resources that a social actor can obtain from its social relationships.

Then, who are social actors in work teams who would leverage and utilize social capital? In other words, who possesses social capital that is potentially valuable for the team? We can think of two different actors for a team: team members and the team itself. In the literature of teams, some researchers have argued that team members’ attributes (personality, attitude, skills, etc.) or behaviors influence team effectiveness (Barrick, Stewart, Neubert, and Mount 1998; Burpitt and Bigoness 1997; Hackman 1987; Sims and Manz 1994). Other researchers focus on the effects of team-level factors, such as group composition, cohesiveness, and group size (e.g., Guzzo and Dickson 1996; Hackman 1987; Pelled, Eisenhardt, and Xin 1999). Consistent with the two strands of research, a team’s social capital can also be created and maintained by two distinctive entities: team members and the team itself (Rosenthal 1996).

First, personal networks of team members may affect a

team's social capital and its effectiveness. For example, team performance in law or audit firms is affected by how many clients team members obtain from their own personal networks. Also, the configuration of the relationships encompassing all members within a team may constitute its social capital. For instance, the cohesive social relations among team members may promote associability, trust, and the creation of new intellectual capital within teams and thus increase team performance (Nahapiet and Ghoshal 1998; Leana and Van Buren 1999; Smith, Collins, and Clark 2005). Next, a team's social capital can be affected by its relationships with other teams or individuals outside the team. Sunstrom and his colleagues (1989, 1990, 2000) argue that the relationships of a work team with other work teams in terms of differentiation and integration affect team boundaries and, thus, team effectiveness. In addition, a team's social capital may be affected by the entire, social structure of a firm, which constitutes team contexts. The context-driven team effectiveness models emphasize that organizational contexts into which a team is embedded have critical influence on team effectiveness (Hackman 1987; Sundstrom et al. 2000).

While these various types of social capital within a team may be complementary for team innovation, we hereby focus on social capital of team members, including an opinion leader and other team members. Team innovation tends to proceed through a process of acquiring, sharing, and integrating new idea and knowledge so that a team's innovation is closely related to the nature of both external and internal social capital of team members (Ancona and Caldwell 1992; Burt 1992). Accordingly, this study examines how external relationships of team members influence the adoption and generation of team innovation by infusing new idea and knowledge and how internal relationships among team members facilitate the implementation of team innovation by sharing and combining new idea and knowledge. More importantly, this study highlights the roles of an opinion leader as an intermediary of external and internal social relationships of a team.

OPINION LEADER'S SOCIAL CAPITAL AND TEAM INNOVATION

Opinion Leaders

Opinion leaders refer to the persons who are able to influence other individual's attitudes or overt behavior informally in a desired way with relative frequency (Rogers 1995; Stern and Gould 1988). Opinion leaders are usually seen as persons of a social status that are similar to that of the persons they influence. People may be more readily influenced by the opinion held by a person with a similar social status because they have greater access to and are more attracted to that person (Lam and Schaubroeck 2000). Opinion leaders also tend to act as role models in peer groups and as the theoretical underpinning to peer education and interpersonal influence within the groups (Valente and Davis 1999). Opinion leaders often influence others' attitude and behavior even without formal authority. Accordingly, opinion leaders influence other persons informally and are distinguished from formal leaders with superior authority (Burt 1999). In sum, opinion leaders simply refer to those individuals who are identified as a source of credible information and informal influence by other persons within a team (Stern and Gould 1988).

Opinion leadership has been studied at various fields such as voter behaviors in political science, the prevention of disease infection in public health, and consumer behaviors in marketing. Two dominant approaches to opinion leadership, however, are found in the literatures of social psychology and social capital. One approach based on social psychology assumes that personal characteristics are key determinants of the formation of opinion leadership. Key personal characteristics of opinion leaders include public individuation (a state where one feels differentiated from others), superior knowledge associated with new practices, and personality of less dogmatic, more innovative, and more venturesome (Chan and Misra 1990). The other approach from the social capital theory argues that structural locations of an individual in interpersonal networks affect the formation of opinion leadership and their influence on others. This approach relies mainly on the network analysis to locate individuals who

are more central to a group (Burt 1999; Valente and Davis 1999). More specifically, in this approach an opinion leader is identified as the person who receives the most nominations (as sources of advice or information) from other members within a team. In other words, opinion leaders are persons with highest degree of centrality (more strictly speaking, highest degree of prominence) in the interpersonal networks. The current study follows the social capital approach to opinion leaders.

Opinion leaders may function as major conduits of diffusion of innovation within and across groups. For example, Coleman, Katz, and Menzel (1957) found that a doctor's high degree of centrality in his/her interpersonal relations with other doctors within a community was strongly and positively related to the date of his/her first use of the new drug, which, in turn, promotes the use of the drug among other doctors. Valente and Davis (1999) found through simulations of hypothetical networks that innovation diffused faster when initiated by opinion leaders than when initiated by persons chosen at random or those who received the fewest nominations. Burt (1999) argues that opinion leaders play a key role in promoting innovation within a group by carrying information across the social boundaries between groups and influencing other group members to adopt innovation. In a study of bank tellers, Lam and Schaubroeck (2000) also found that units using opinion leaders as change agents experienced faster adoption of a service-quality initiative than other units using frontline change agents who were not opinion leaders.

In sum, the social capital perspective defines an opinion leader as an individual with the highest centrality (i.e. the most nominations by other members of the team) in interpersonal relations within a team. An opinion leader plays a key role in adopting a new practice or idea and thereby, initiating team innovation. Based on the theoretical and empirical evidence in the extant literature, we expect the following:

Proposition 1: Teams where the first adopters of innovation are opinion leaders – defined as members with the most nominations from other team members – are likely to initiate innovation faster than other teams where the first adopters of innovation are not opinion leaders.

Opinion Leader's Social Capital

Opinion leaders' influence over the adoption or initiation of innovation in their team may be related to the nature of their external social capital, especially their nonredundant ties (i.e., rich in structural holes) to external contacts. Researchers in the field of social psychology have addressed how the credibility of information sources is related to the effect of new information on attitudinal and behavioral change (Lam and Schaubroeck 2000). Specifically, direct and persuasive communications from credible sources more strongly influence individuals' attitude and behaviors than do the same communications from less credible or peripheral sources. In parallel with source credibility, the expertise of the opinion leader has also been found to affect the effectiveness of opinion leadership (Chan and Misra 1990; Marshall 1995; Marks, Zaccaro, and Mathieu 2000). Regarding the acquisition of credible and broad information, social capital literature suggests that the nonredundant social networks (i.e., rich in structure holes) of an individual tend to increase the quality and quantity of information available for the individual.

Structural holes refer to the absence of direct relations between social contacts, and these contacts are called nonredundant (Burt 1992). Burt (1992) argues that structural holes are the sources of entrepreneurial opportunities to access and mobilize the social capital inherent in social relations and thus provide competitive advantages for individuals who span structural holes. Specifically, he argues that actors with nonredundant contacts obtain more information in a timely manner and monitor information more effectively by comparing information from various sources than those with redundant contacts.

Structural holes also offer control benefits (Burt 1992). An actor with many structural holes may be better able to negotiate conflicting demands from his/her social contacts by creating competition between his/her disconnected partners. Thus, structural holes increase the actor's structural autonomy. If they belong to loosely connected work relations, they may not be strongly constrained by external pressures and possess more freedom to follow their own agenda. In short, the structural holes theory argues that an actor's social capital is a function of

brokerage opportunities. Information and control benefits from social relationships are all in proportion to how many nonredundant contacts the actor maintains.

The structural holes theory provides a possible theoretical foundation for how opinion leaders are able to obtain expertise, various information, and credibility, which determine their influence on other team members' attitudinal and behavioral change. Opinion leaders with many nonredundant, external contacts can increase the quantity and quality of innovative ideas or practices through access to various information sources. A variety of high-quality information an opinion leader brings into the team may also help increase his/her credibility perceived by team members by increasing his/her information power. Thus, the more nonredundant contacts an opinion leader has, the more credible other members will perceive the innovative ideas or practices that he or she brings into the team, and the more actively they may adopt the ideas or practices. In this regard, Burt (1999) argues that opinion leaders are eventually opinion brokers or network entrepreneurs, who carry information across the social boundaries between teams and that they are not necessarily the people at the top of things so much as people at the edge of things, not leaders within groups so much as simple brokers between groups. Following the structural holes theory, Rosenthal (1996) provided empirical support by showing that there was a negative association between the degree of external "constraints" of the most entrepreneurial members and their team performance. This discussion of structural holes leads us to pose a proposition regarding the effectiveness of opinion leaders in initiating team innovation as follows:

Proposition 2: The more non-redundant external contacts its opinion leader has, the faster the team is likely to initiate innovation.

TEAM MEMBERS' SOCIAL CAPITAL AND TEAM INNOVATION

Many researchers have noted that the pattern of interactions among team members is importantly related to team performance and innovation (Barrick and Stewart 1998; Marks et al. 2000;

Nahapiet and Ghosal 1998; Scott and Bruce 1994). We relate such previous notion in the literature to team-level social capital. We also discuss the effects of team members' social capital on the implementation of team innovation and its interaction with opinion leaders' social capital to influence team innovation.

Team Members' Social Capital

Much research of teams has found that group cohesion and norms tend to promote internal communication, cooperation and knowledge sharing, and reduce conflict among team members, which, in turn, positively affect team performance (e.g., Barrick and Stewart 1998; Goodman 1987). While some researchers view group cohesion and norms as the simple sum of individuals' psychological states, those approaches to group process have been criticized for unclear distinction between individual-level cognition or behavior and team characteristics. Alternatively, researchers argue that the social capital theory may contribute to identifying the characteristics of the team by measuring the pattern of interactions among team members.

Among available social capital theories, the network closure model argues that cohesive social relations within a team tend to increase group performance by facilitating trust, enhancing the diffusion of reliable information, and creating a normative environment to enforce cooperation within the team (Coleman 1988; Meyerson 1994). For example, Leana and Van Buren (1999) argue that cohesive social relations create associability and trust at a collective level. Moreover, it is argued that cohesive social relations may lead to creating new intellectual capital through the combination and exchange of different individuals' prior intellectual capital (Nahapiet and Ghoshal 1998; Smith et al. 2005). Accordingly, the network closure model suggests that, while a sparse network rich in structural holes is coupled with competitive rules of exchange, opportunism, and an individualistic orientation, a dense network is coupled with cooperative rules of exchange, norms of reciprocity, and a collectivist orientation (Obstfeld 2005). This suggests that cohesive social relations among team members are advantageous for the implementation of team innovation (initiated by an opinion leader of the team) because team members not only trust the motive to adopt and

potential benefits of such innovation, but also are willing to share and combine that into their activities. Empirical evidence also exists to support the above argument. For example, Reagans and Zuckerman (2001) found network density indicating team members' relational strength positively influenced the productivity of corporate R&D teams. Based on both theoretical and empirical argument above, we general the following proposition:

Proposition 3a: The innovation initiated by opinion leaders will be implemented more successfully in teams whose members are connected into cohesive social relations than in those whose members are connected into sparse social relations.

In addition to cohesive internal relationships within the team, similarity of structural positions among team members – that is to say, the level of their structural equivalence – may influence the implementation of team innovation (Burt, 1987). Two actors are considered the occupants of the same position when their functions or roles are readily substitutable by other equivalent actors. These actors occupying the same position often compete with one another for the attention and resources from other social positions, and, thus, are likely to imitate each other not to lose their reputation. For example, after re-analyzing the classic data of medical innovation used by the early diffusion researchers, Burt (1987) found that there was strong evidence of contagion through structural equivalence and virtually no evidence of contagion through cohesion, unlike what the early researchers observed. Burt (1987) explained that actors tend to adopt any innovation perceived to make others in the same position more attractive. Therefore, such competitive relations among team members may stimulate the diffusion of innovation initiated by an opinion leader within the team. Other empirical evidence exists to support the positive effect of team homogeneity on its performance. Rosenthal (1996) found that dissimilarity in social positions among team members – which was measured by the standard deviations of individual constraints score in their external social relations – was negatively associated with team performance in cross-functional teams. Oh, Choi and Kim (2005) also found researchers in similar disciplines in the field of information systems collaborated more in terms of co-authorship and positively influenced their performance.

Accordingly, we pose the following proposition:

Proposition 3b: The more structurally equivalent team members' social relations are, the more successfully the team innovation initiated by an opinion leader will be implemented within the team.

Interactions of Opinion Leader's and Team Members' Social Capital

Each team member may exchange his/her own view and attitude toward particular innovative ideas or practices while he/she interacts with each other in a team. In actuality, this exchange is the basis of more diffusion of innovative ideas and implementation among team members with cohesive social relations and structural equivalence. Such exchange activities are not independent from the influence of an opinion leader in facilitating team innovation. In other words, social capitals of both an opinion leader and team members critically require each other for successful team innovation. First, an opinion leader's social capital relies on team members' social capital to influence team innovation process. Team innovation process can not be successfully completed without acceptance and implementation of new ideas and practices by majority of team members. However novel and innovative idea may be imported by an opinion leader, it can only be successfully implemented at a team level when team members agree on and accept it through diffusion processes based on team members' social network.

Second, team members' social capital alone cannot guarantee successful team innovation without an opinion leader's role. When the performance of an innovative idea or practice is neither known nor proven, each team member is uncertain about the performance outcomes of the idea or practice and, thus, hesitates to adopt them. The adoption of an innovative idea or practice may pose a threat to workers when such an idea or practice is believed to modify the working or employment conditions in an unfavorable way. In this case, even though they are convinced of the performance of a given idea or practice, they will not readily accept the idea or practice. If their fear about an idea or practice is ungrounded, the success of adopting an innovative idea or practice depends on whether to unveil unnecessary fear of an innovation.

In these cases, opinion leaders play an important role in validating uncertain ideas or practices on behalf of their work teams. Each team member will be convinced by an opinion leader only when the former believes the latter to have relevant knowledge and considers him/her credible.

While the credibility of an opinion leader may arise from a variety of sources (e.g., professional expertise), as noted above, his/her brokerage position in social networks over other team members can be an important source of his/her credibility. When an opinion leader can access a variety of non-redundant external contacts, he/she can cross-check the value of an innovative idea or practice from a variety of sources so that other team members positively evaluate the opinion leader's knowledge of new ideas and practices and consider him/her credible. Also, an opinion leader connected to nonredundant external networks takes a brokerage position to control knowledge flows across the boundary of the team. Such a brokerage position increases the power of the opinion leader to influence other team members to adopt and implement the proposed innovation. In sum, information and control advantages originated from an opinion leader's non-redundant social networks can complement internal networks of team members to facilitate team innovation. The above discussion along with our previous discussion on two components of team members's social capital (i.e., cohesive social relations and structural equivalence) leads to the following two propositions regarding the interactions between opinion leaders' and team members' social capital:

Proposition 4a: An opinion leader's nonredundant external relations will interact with cohesive social relations among team members to positively influence the implementation of team innovation.

Proposition 4b: An opinion leader's nonredundant external relations will interact with structural equivalence of social relations among team members to positively influence the implementation of team innovation.

DISCUSSION

This paper intends to develop a theoretical framework of team innovation from the social capital perspective. To the outset, we have drawn this framework from two underlying assumptions. First, innovative ideas or practices flow through interpersonal contacts across and within the team. In other words, the members of a work team are assumed to access innovative ideas or practices from either other members in a team or casual acquaintances outside the team. Second, opinion leaders are one of the important sources of the team-level innovation as they shape or modify knowledge flows through interpersonal contacts within and across the team.

Based on these assumptions, our theoretical framework suggests that opinion leaders will influence the team-level innovation through two distinct paths — adoption/initiation and implementation of team innovation. In one way, opinion leaders provide an important source of the generation and adoption of innovative ideas or practices. In general, opinion leaders maintain broader social networks across and within the team and take an advantageous brokerage position over other team members. Accordingly, they can play an important role in conveying knowledge of innovative ideas and practices into the team. The likelihood of a team to locate an innovative idea or practice depends heavily upon the type of knowledge its opinion leader can acquire through his/her external networks.

Previous research of social capital and team effectiveness has exclusively focused on either individual or collective social capital or attributes without considering their interaction. Our framework shows how these two different types of social capital — that is to say, an opinion leader's social capital and the collective social capital of team members — would interact to determine a team's social capital, which influences the adoption/initiation and implementation of innovation. Our approach to team social capital also shows how research of team can be fertilized through a multilevel perspective of social capital. Further, our framework suggests how internal and external processes of the team interact to influence team innovation.

Our framework may also provide two valuable implications for

organizational intervention for team development. To diffuse an innovative practice, organizations mostly rely on employee training programs based on class lectures and demonstrations or formal leadership of change agents. But, our theoretical framework suggests that team innovation may be adopted and implemented more quickly and efficiently when opinion leaders who have informal influence over team members function as change agents. In this regard, a practical question may arise concerning any potential conflict between a formal and an informal leader. We expect future studies to deal with such important and practical issues both theoretically and empirically. Next, our theoretical framework also suggests that a prominent opinion leader should be allowed to expand their social relations and that team members should also be encouraged to interact intensively. And, if possible, the team needs to be composed of individuals with similar social positions.

By definition based on social capital perspective, an opinion leader is the person that is most frequently nominated by the team members and secures the highest centrality. One of our central argument of the current paper is that such opinion leader will positively influence team innovation when he/she also has strong external ties. However, empirical as well as theoretical evidence exists that an individual with strong ties both in- and out-side organization is rare in realistic organizations (Perry-Smith 2006; Perry-Smith and Shalley 2003). Although it is not surprising given the limited resources a person has more future studies are expected to investigate practical meaning of ambidextrous opinion leader in terms of internal and external ties.

While our proposed framework has not assumed a particular type of teams, several researchers have noted that the type of teams varies with team attributes, internal processes, or environmental conditions and that each type of teams may require different innovation process (Cohen and Bailey 1997; Sundstrom et al. 1990). This implies that future research needs to be done to explore how the relationships among variables in our proposed model can be moderated by other team-level characteristics. For instance, it is possible that the relative effectiveness of structural equivalence versus cohesion among team members varies with types of teams.

Following traditional social capital theories based on the

assumption that individual behaviors are determined by the structure of social contexts into which the individual is embedded, our framework isolated the effects of individuals' social capital from the potential effects of individual characteristics on team innovation. But, some social capital theorists have raised the possibility that the effects of individuals' social capital are moderated by their psychological attributes such as personality (Mehra, Kilduff, and Brass 2001). This view on social capital suggests that our framework should be merged with traditional psychological approaches to team process and effectiveness in order to better understand the process and determinants of team innovation. This lends a great opportunity for future interdisciplinary research.

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