

## Examining the antecedents of knowledge sharing in facilitating team innovativeness from a multilevel perspective

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### ABSTRACT

This paper examines how transformational leadership (TFL) climate influences employees' team identity and their intentions to share knowledge and how team knowledge sharing intention subsequently influences team innovativeness. Data was collected from 301 employees comprising 52 R&D teams. Hypotheses were tested with both hierarchical linear modeling (HLM) and regression analyses. Results indicated that TFL climate was related to employees' intention to share knowledge through team identity. At the group level, results supported the relationships between team knowledge sharing intention and team innovativeness. The results also indicated that team knowledge sharing intention mediated the relationship between TFL climate and team innovativeness.

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### 1. Introduction

Innovativeness, the flexibility and willingness to accept new ways to create knowledge-based solutions, is an increasingly indispensable tool for corporations attempting to cope with the complexity of today's competitive environments. As more and more sectors of the global economy become knowledge-based, the importance of understanding the relationships that logically exist among the social capital of an organization (Nahapiet & Ghoshal, 1998; Yli-Renko, Autio, & Sapienza, 2001), the knowledge management mechanisms utilized by the organization, and their effects on both individual and team-level creativity and innovation become paramount. While scholars and practitioners have acknowledged the critical role that knowledge sharing plays in creating and maintaining firm effectiveness (e.g. Alavi & Leidner, 2001; Kogut & Zander, 1996; Spender & Grant, 1996; Tsai, 2001), surprisingly few empirical studies have concomitantly examined both the antecedents of knowledge sharing as well as its relationship to organizational innovativeness within this broader context.

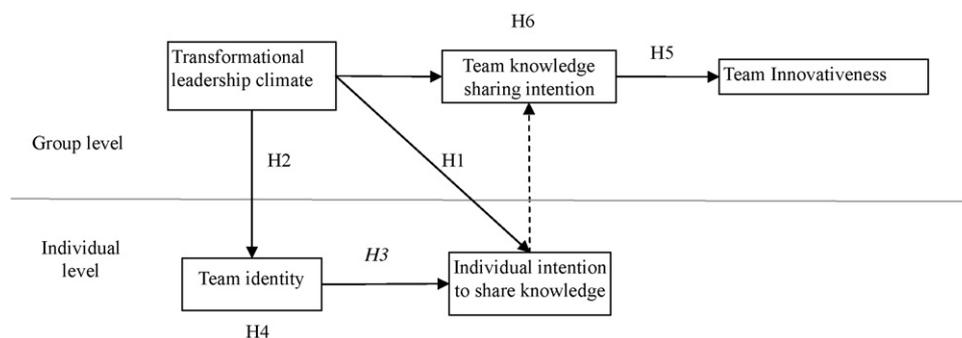
At an organizational level, the extant literature has emphasized the effects of managerial practices and organizational culture on knowledge sharing (e.g., Bartol & Srivastava, 2002; Chen & Huang, 2007; Floyd & Lane, 2000). Prior research with more of an individual team member perspective has, in comparison, focused

on employees' personalities and dispositions and their relationships with knowledge sharing (Cabrera, Collins, & Salgado, 2006; Mooradian, Renzl, & Matzler, 2006; Szulanski, 1996; Yang & Farn, 2009). While both of these streams of research have yielded interesting and useful information, very little attention has been given to the antecedents and consequences of knowledge sharing from a multilevel perspective, despite the acknowledged importance of adopting a cross-level conceptual and analytical perspective on social interactions that involve knowledge sharing in organizational settings (Brass, Galaskiewicz, Greve, & Tsai, 2004; Siemsen, Balasubramanian, & Roth, 2007). The purpose of the present investigation was, therefore, to help provide this multilevel perspective on an issue that remains a critical one for both theory and practice. The fundamental question that we address in the present study is whether a climate of transformational leadership (TFL) can facilitate team innovativeness. Although research has frequently examined the effects of leadership on teams, a substantial portion of the prior research has been conducted within a single-level analytical framework. Unfortunately, examining one level at a time prevents one from knowing the relationships involving predictors at two or more levels and an outcome at a single level (Kozlowski & Klein, 2000); thus, we adopted a multilevel approach in this study to test our proposed model.

We believe that the present study will make an important contribution to the leadership, innovativeness and knowledge sharing literatures by providing a more comprehensive, multilevel analysis of several of the potentially important underlying variables. Specifically, as represented in Fig. 1, we examine whether TFL climate influences team members' knowledge sharing intention through team identity perceptions via hierarchical linear model-

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**Fig. 1.** An integrated multilevel research model. Note: Dashed lines represent additive processes through which individual-level phenomena are compiled to form group-level phenomena.

ing (HLM; Raudenbush & Bryk, 2002); and subsequently whether these enhanced team knowledge sharing intentions can explain the relationship between leadership climate and team innovativeness.

## 2. Theoretical background and hypothesis development

### 2.1. TFL climate and intention to share knowledge

Over 40 years ago Katz and Kahn (1966) suggested that the ability to evoke “performance beyond role requirements” was a critical element for organizations attempting to optimize their functioning. One perspective on this kind of performance enhancement that has proven quite informative is the body of knowledge related to transformational leadership (TFL). TFL develops between the leader and the followers in the form of a climate shared among team members. Under a TFL climate, members may internalize team attributes as their own and in turn, this internalization can lead to a strong sense of team identity which in turn should facilitate extra-role behaviors, such as knowledge sharing behavior (Bryant, 2003).

Transformational leadership presumably has positive effects on individual and work group productivity when a leader successfully utilizes the 4 “I’s” of leadership (Avolio, 1994). By enacting leader influence through the use of idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, transformational leaders are able to realign employees’ values and norms, and inspire employees to achieve higher levels of innovation and effectiveness.

The potential effects of transformational leadership on knowledge sharing are especially compelling given the focus of this leadership perspective on organizational values and norms; it has often been argued that knowledge sharing will be positively related to individual attitudes and to organizationally shared values (culture) (e.g., Bock, Zumd, Kim, & Lee, 2005). Quite logically, therefore, leadership styles that enhance knowledge sharing organizational-cultural beliefs will stimulate an environment in which employees have the desire to share. This desire to share is a critical aspect of knowledge sharing’s effects on innovativeness since “Knowledge sharing does not happen automatically in a team, and the team’s leader has an important role to play in making it come about.” (Srivastava, Bartol, & Locke, 2006, p. 1241) Moreover, there is evidence to suggest that intrinsically motivated knowledge sharing intentions are more effective than attempts to enhance knowledge sharing through extrinsic factors such as organizational rewards (Lin, 2007). Developing a common perspective and mutual understanding (a key aspect of an organization’s repository of social capital) is posited to stem from a number of sources including citizenship behaviors which typically are assumed to be derived from intrinsic-motivation (Bolino, Turnley, & Bloodgood, 2002). As such, leadership styles such as transformational leadership that foster a

culture of shared beliefs, vision, organizational commitment, and knowledge sharing should be especially useful.

A belief that TFL may be a critical precursor to knowledge sharing is also conceptually quite consistent with a more comprehensive social capital perspective on organizational effectiveness. As Nahapiet and Ghoshal (1998) have carefully articulated, social capital is critical for maintaining organizational competitive advantage because it forms the bases for trust and cooperation among and between work groups. This trust and cooperation is essential for effective knowledge-sharing to occur. Moreover, research has demonstrated that psychological safety (Edmondson, 1999) is an important antecedent to knowledge sharing (Siemsen, Roth, Balasubramanian, & Anand, 2009). Team members must possess shared beliefs that the team environment is trustworthy and that interpersonal risk will be rewarded rather than punished. Logically, the team leader plays an integral role in facilitating high levels of psychological safety and more importantly, the fundamental nature of transformational leadership should effectively foster this sense of trust.

Liao and Chuang (2007) proposed that the concept of “work unit transformational leadership” refers to the overall pattern of leadership behaviors displayed to the entire work unit; it can be viewed as a type of ‘ambient stimulus’ that pervades the work unit and is shared among unit members” (p. 1007). In the context of knowledge management research, it has been noted that TFL is linked to a follower’s motivation to perform beyond standard expectations and may have a positive influence on knowledge management (e.g., Bryant, 2003; Huang, Davison, Liu, & Gu, 2008). However, the posited relationship between TFL and knowledge sharing has never been tested from the multilevel perspective. Logically, however, TFL should be beneficial to effective social interaction (Avolio, 1999; Bass, 1998) and therefore, a transformational climate might arouse the affiliation motive among group members, which ultimately could result in increased intention to share knowledge, especially when the overall leadership climate of the group supports the interpersonal risks that are inherent with knowledge sharing. Thus, we hypothesized:

**Hypothesis 1.** TFL climate is positively related to employees’ intention to share knowledge.

### 2.2. TFL climate, team identity and intention to share knowledge

Team identity refers to the individual perceptions that team members have regarding the feeling of oneness with or belongingness to the group of which they are members. Bass and Avolio (1990) argued that TFL motivates followers to exert extra effort by getting them to transcend their own self-interests for the good of the group. They also contended that transformational leaders empower subordinates by promoting a strong identification

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