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Shared leadership and team motivation: An exploratory study

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SHARED LEADERSHIP AND TEAM INNOVATION: AN EXPLORATORY STUDY

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I hereby declare that this DBA dissertation is my original work
and it has been written by me in its entirety.
I have duly acknowledged all the sources of information
which have been used in this dissertation.

This DBA dissertation has also not been submitted for any degree
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ABSTRACT

Despite the importance of team innovation for organizations, the conditions that foster team innovation are still not well understood. In this dissertation, I propose a theoretical model in which the impact of shared leadership on team innovation is mediated by information sharing and team potency. I utilize a two-wave longitudinal, multi-method and multi-source research design to examine the research hypotheses. I argue that shared leadership not only improves a team's information sharing and team potency, but also generates cognitive and motivational advantages that are conducive to innovation. In addition, I show that the relationship between shared leadership and team innovation is moderated by leader-member exchange (LMX) differentiation, and the innovation stage moderates the relationship between shared leadership and team potency. LMX differentiation restrains the positive effect of shared leadership on information sharing and team potency because high LMX differentiation increases perceived injustice in teams. The results show that team potency mediates the impact of shared leadership on team innovation. The positive impact of information sharing and team potency on team innovation is stronger in the idea implementation stage than in the idea generation stage. My research contributes to the shared leadership literature by identifying how and when shared leadership influences team innovation.

Keywords: shared leadership, team innovation, team potency, information sharing, LMX differentiation

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CHAPTER 1 INTRODUCTION

Importance of Team Innovation in Modern Organizations

Innovation is essential for modern-day organizations to boost competitiveness in fast-moving and highly competitive environments (Bledow, Frese, Anderson, Erez, & Farr, 2009; Choi & Chang, 2009). Team-based organizations enhance innovation by introducing and implementing novel and useful ideas. In particular, work teams need to integrate diverse information and viewpoints that contributes to decision-making, creativity, and innovation (Dahlin, Weingart, & Hinds, 2005; Shin & Zhou, 2007; Stewart, 2006). As the task complexity and professionalism increase, teamwork becomes more dependent on the team's intelligence and coordination than individual talent and devotion. Teams play an increasingly important role in modern business practices and have gradually become the typical unit of work. Many argue that teams are now the building blocks of organizational innovation, and optimal approaches to enhancing team creativity and innovation has become an area of significant interest to both researchers and business practitioners (e.g., Jiang, Gu, & Wang, 2015; Schippers, West, & Dawson, 2015).

Previous research has explored individual-level and organizational-level determinants of team creativity and innovation (Camisón-Zornoza, Lapiedra-Alcamí, Segarra-Ciprés, & Boronat-Navarro, 2004). For example, individual-level factors — such as proactive personality (Kim, Hon, & Grant, 2009), learning orientation and behavior (Hirst, van Knippenberg, & Zhou, 2009; Jiménez-Jiménez & Sanz-Valle, 2011), and transformational leadership (Chen, Farh, Campbell-Bush, Wu, & Wu, 2013) —as well as organizational-level factors—such as team cohesion (West & Farr, 1989; Woodman, Sawyer, & Griffin, 1993),

team or task conflict (Farh, Lee, & Farh, 2010), vision (Carmen, María de la Luz, & Salustiano, 2006), and support for innovation (Sarros, Cooper, & Santora, 2006; also see review of Huelsheger, Salgado, & Anderson, 2009) — have been evidenced as key determinants of team creativity and innovation. The awareness of the team as a unit that generates and pursues novel ideas (Hülsheger et al., 2009) has gradually increased, and team-level factors such as leadership, team diversity, task interdependence, and team cohesion have received significant research attention (e.g. Mitchell & Boyle, 2015; West & Farr, 1989). For example, Eisenbeiss, van Knippenberg and Boerner (2008) proposed team innovation as a function of leadership and explored the effects of transformational leadership on team innovation at the team level. Recent literature has suggested that shared leadership is a key determinant of team performance in the current dynamic business environment (D'Innocenzo, Mathieu, & Kukenberger, 2014; Drescher, Korsgaard, Welpe, Picot, & Wigand, 2014). Nicolaides et al. (2014) argued that horizontal leadership exerts a more significant influence on a team processes and outcomes rather than traditional vertical leadership. Leadership research has gradually shifted focus from the conventional top-down leadership influence of a single person to horizontal influence among peers, where team members assume new leadership roles (Contractor, DeChurch, Carson, Carter, & Keegan, 2012; Kozlowski & Bell, 2013). Advocates of a shared leadership paradigm maintain that shared leadership is potentially favorable for teams and organizations (e.g., D'Innocenzo et al., 2016; Nicolaides et al., 2014; Wang, Waldman, & Zhang, 2014).

Changing Organizational Leadership

Shared leadership has been defined as leadership distributed among team members and not concentrated in the appointed of one single team leader (Pearce & Sims, 2002). Shared leadership takes place when all team members are engaged in the leadership influence process (Seers, Keller, & Wilkerson, 2003). Studies have shown that shared leadership may determine how a team works (Shane & Fields, 2007) and how well the team performs (Ensley, Hmieleski, & Pearce, 2006). For example, shared leadership has been associated with an improvement in the quality of problem-solving (Pearce, 2004), team trust (Drescher et al., 2014), and team creativity (Hooker & Csikszentmihalyi, 2003).

Hooker and Csikszentmihalyi (2003) argued that shared leadership is becoming the novel, popular, and dominant leadership form in contemporary organizations. In the past, most corporations were run by one single top-level executive. However, businesses or teams that depend on one single leader are exposed to considerable risks. First, if the leader retires or resigns, the organization or team may impair its capacity to succeed or even survive in the future. The performance of General Motors Corporation after Alfred Sloan, and that of Coca-Cola Company after Roberto Goizueta, demonstrates the validity of this claim. Second, no one, no matter how talented, can be "right" or "creative" all the time (O'Toole, Galbraith, & Lawler, 2002). One person cannot be equipped with all the skills and knowledge required to run a highly complex organization. This is especially true in the current business world, where the need for constant innovation requires enduring intellectual investment, frequent knowledge updates, and effective collaboration (Homan et al., 2008).

In the United States, Amana Corporation (https://amana.com/), a household appliances brand, reconstructed its corporate leadership system by appointing four joint leaders in 1995.

Before that leadership restructure, Amana was unable to produce sizeable profits despite having sold off its famous line of refrigerators. Today, the company is making great strides and stable profits. Amana's senior management has identified a shared set of supervisory principles, which contributes to the success of their unusual work arrangement. In addition, the acting CEO of Amana Corporation claimed that joint leadership "allows more time for leaders to spend in the field; it creates an internal dynamic, in which the leaders constantly challenge each other to higher levels of performance" (O'Toole et al., 2002, p. 67). In China, since 2001, the senior executives of Huawei Corporation have taken turns in the CEO position with each tenure lasting no more than six months. Zhengfei Ren, the founder of Huawei, claimed that this managerial design was able to facilitate the decentralization of power within the company, thus nicely dovetailing with the company's innovation-oriented and growth-extension strategies (Osawa, 2013).

As a result of the current trend of power decentralization among top management, team members are increasingly required to proactively assume traditional leadership functions (Seers et al., 2003). In day-to-day interactions, team members are often presented with opportunities to play a leadership role, thus influencing peers with their unique expertise, experience, or skills. Shared leadership is crucial in teams responsible for developing innovative products. Generating a creative product is a complex task, which requires different employees devoting diverse and unique skills and knowledge to the innovation process. Sharing leadership roles in the team can enhance the quality of team decision-making and creative performance (Hoch, 2013). In addition, shared leadership has been found to positively correlate with team spirit, team cohesion and interpersonal trust, which

play important motivational roles in innovation activities (Drescher et al., 2014).

Consistent with the increase in popularity of the shared leadership practice, there has been a shift in academic research in the way this organizational phenomenon is addressed, understood, and theorized. Organizations are no longer regarded as machines that transform inputs into outputs, in which leaders lead and control all processes. Recent research considers organizations are regarded as dynamic systems of influence networks. This change in the notion of the organization has been accompanied by a corresponding shift in the concept of leadership (Fletcher & Kaufer, 2003).

The current notion of leadership proposes that the effectiveness of relationships in organizations relies not just on individual "heroic" leaders but also on informal leadership roles embedded within a system of inter-dependencies. This new model conceptualizes leadership as a social process and as a team-level shared or distributed phenomenon and proposes that leadership is contingent on social networks of impact (Fletcher & Kaufer, 2003).

Shared Leadership: An Approach to Team Innovation

Leadership has traditionally been conceptualized at the individual level, focusing on how formal leaders make decisions and influence and align subordinates for implementing such decisions (Fletcher & Kaufer, 2003). Traditional leadership research has largely ignored informal interpersonal influences, which are now believed to exert a significant impact on team creativity and innovation (Tödtling, Lehner, & Kaufmann, 2009). Frequent interactions and information sharing are thought to significantly enhance team efficacy (van

Knippenberg & Schippers, 2007).

Unlike vertical or formal leadership, shared leadership focuses on leadership practices at the team level (Yukl, 1998). First, this perspective recognizes shared leadership as a group of practices conducted by individuals at various levels rather than personal characteristics of those who sit at the highest level of an organization (Fletcher & Kaufer, 2003). While the figurehead at the top is essential and visible, the network of leadership practices distributed throughout the organization substantially supports this figure. Creativity and organizational innovation depend more on teamwork and collaboration than individual intelligence due to high task interdependence and complexity (van der Vegt & Janssen, 2003).

Second, shared leadership implies multidirectional, collective, and dynamic activities embedded in the organizational context (Fletcher & Kaufer, 2003). Social interactions are the key to this process because leadership is viewed as an interpersonal influence within task-oriented teams and organizations (Fletcher & Kaufer, 2003). High-quality knowledge sharing and team collaboration are essential for team innovation, especially at the idea elaboration and implementation stages (Stasser & Titus, 1985).

Given the importance of shared leadership in the innovation process, the following two research questions are addressed in this study: Does shared leadership improve team innovation? What are the potential mechanisms and boundary conditions of the relationship between shared leadership and team innovation?

CHAPTER 2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

This chapter review the literature related to team innovation and shared leadership. The theoretical development and definitions of both team innovation and shared leadership are summarized along with the proposed theoretical model (see Figure 1). Specifically, in this section, I will introduce the mechanisms through which shared leadership influences team innovation and will discuss the boundary conditions of the model.

Insert Figure 1 about here

Shared Leadership and Team Innovation

Shared Leadership

Definition of Shared Leadership

The construct of shared leadership is built on the assumption that leadership can be practiced by team members (Morgeson, Derue, & Karam, 2010). Different definitions exist in the literature based on various perspectives. Pearce and Conger (2003, p. 1) defined shared leadership as "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both." In this definition, shared leadership is an influence process that involves interacting, influencing, and giving suggestions (Aime, Humphrey, Derue, & Paul, 2014). These influential behaviors are informal approaches intended to assume the leadership roles traditionally taken by formal leaders (Hoch & Kozlowski, 2014). In this perspective, shared

leadership involves disseminating the leadership functions among the members of a team (Contractor, Dechurch, Carson, Carter, et al., 2012; Erez, Lepine, & Elms, 2010). Drescher et al. (2014, p.2) defined shared leadership as "an emergent property of a group where leadership functions are distributed among group members". This definition is based on Carson, Tesluk, and Marrone's (2007), which described shared leadership from the density perspective of the social network theory. Similarly, Zhou (2012) proposed that the dissemination of leadership influence across different team members is typically a shared leadership phenomenon. Unlike Drescher et al. (2014) and Zhou(2012), Mendez (2009, p. 1) emphasized dynamic processes and patterns and thus defined shared leadership as "a dynamic property that is not owned by any particular team member but flows among multiple people and adapts to the characteristics of the situation."

These concurrent definitions suggest that shared leadership implies the following three aspects: (1) locus of leadership, (2) formality of leadership, and (3) temporal dynamics.

The first two elements reflect the sources of leadership. From the locus of leadership perspective, leadership can originate from outside (external) or inside of the team (internal). From the formality perspective, a leader's authority can be shared, so that it is legitimately formalized or informally validated. The existing literature usually regards shared leadership as an informal and internal process (D'Innocenzo et al., 2014).

Time should be taken into consideration for addressing the dynamic nature of shared leadership. Shared leadership is not static and unchangeable, which means that leadership functions or roles can be assumed by multiple team members either simultaneously or at various points in time throughout the team's life cycle (Erez, Lepine, & Elms, 2002;

Kukenberger, 2012). Shared leadership can be described as a serial emergence of official and unofficial leaders, as different team members can assume leadership roles in different projects and periods (Pearce, 2004). As such, shared leadership is a process of mutual influences, which is both concurrent and multidirectional (Fletcher & Kaufer, 2003).

Carson et al. (2007) proposed that shared leadership should not be viewed as specific leadership traits or behaviors but rather as multiple influencing resources within teams. To some degree, traditional vertical leadership, such as transformational leadership and ethical leadership, can also be shared in groups. In this study, shared leadership is defined as an emergent property of a team in which leadership functions are informally scattered among team members.

Distinction from Similar Constructs

Emergent leadership. Emergent leaders wield substantial impact over other team members, even if they are not settled with a formal position in the team (Schneider & Goktepe, 1983). This definition implies that emergent leadership is operationalized at the individual level, while shared leadership is usually a team-level construct (Hoch & Dulebohn, 2017). Emergent leadership focuses on an individual phenomenon, while one or two specific team members generally emerge as informal leaders.

Participative leadership. Participative leaders share influence and joint decision-making with subordinates (Armenakis, Harris, & Mossholder, 1993; Koopman & Wierdsma, 1998). Their goal is to offer subordinates better authority and involvement in team problem-solving and decision-making (Nystrom, 1990). Lam, Huang, and Chan (2015) conceptualized participative leadership as a dyadic construct and argued that some formal

leaders decide to share control over decision-making and problem-solving. However, shared leadership is a team construct and emphasizes its spontaneous formation.

Empowering leadership. Srivastava, Bartol and Locke (2006, p. 1240) defined empowering leadership as "behaviors whereby power is shared with subordinates and that raise their level of intrinsic motivation". They also offered some examples of empowering leadership behavior, such as participative coaching, informing, showing consideration, and decision-making. Empowering leadership focuses more on the leadership behavior of formal leaders than the distribution of leadership within the team. Furthermore, the members of teams characterized by an empowering leader may maintain authority over their own working tasks but do not necessarily exert leadership influence over their peers (Drescher et al., 2014).

In addition to the above-mentioned leadership constructs, the core characteristics of shared leadership distinguishes it from other team constructs such as team cooperation, team engagement, shared mental model, transactive memory system, and team social network. None of these constructs reflects the patterns of team members' leadership influence on peers' work. For instance, in teams characterized by a high transactive memory system, team members may be aware of each coworker's skills and knowledge (Lewis, 2003), but they may not have collective leadership influence. The members of a team characterized by high levels of cooperation may offer assistance to their peers (Beersma et al., 2003). However, this process does not involve the critical influence that leadership entails (Carson et al., 2007).

Measurement of Shared Leadership

The number of theoretical and empirical explorations of shared leadership have significantly increased in recent years (e.g., Houghton, Pearce, Manz, Courtright, & Stewart, 2015). Earlier studies of shared leadership in teams have mostly utilized the aggregation approach, in which each group member is asked to describe the degree to which he/she influences the other team members and, then, the answers are aggregated at the team level (Pearce & Sims, 2002). However, this method does not address issues such as the distribution of leadership functions within the team and whether shared leadership functions are evenly distributed team members.

The social network approach is an effective way to address these problems. This method captures the nature of shared leadership at the team level and aligns with Yukl's (1998) statement that the complex nature of leadership should be described and analyzed within social systems. Therefore, social networks could be effectively utilized to explore the dynamics of shared leadership. First, the concept of shared leadership is based on social relations. The social network approach assumes that individuals are embedded in a complex set of relationships, and that the relationship is viewed as the fundamental unit of society. Second, the social network perspective has effective tools to describe relationships and analyze social structures. Last, the essence of shared leadership relies on a multi-directional influence process, and the social network perspective provides the most effective way to reflect the structure of influence networks.

Density, one of the most important indexes of social networks, can be applied to measure shared leadership. The density of a leadership influence network is a measure of

the amount or degree of influence perceived within the team. In the shared leadership literature, density is the most popular index of shared leadership (D'Innocenzo et al., 2016). Thus, the density index will be used in this study to measure shared leadership.

Team Innovation

Definition of Team Innovation

West (1990, p.309) defined team innovation as "the introduction and application of ideas, products, or procedures that are new to the team and are designed to be useful and practical". Both the academic literature and practice showed that innovation guarantees a consistent competitive advantage for an organization. Innovation enables adjustments to rapidly changing environments, thus allowing companies to take advantage of emerging opportunities (Shalley, Zhou, & Oldham, 2004). Employees' creativity is a source of organizational innovation and contributes to generating novel and useful outputs (Amabile, 1983; Amabile, Schatzel, Moneta, & Kramer, 2004; Shalley et al., 2004). However, although creativity and innovation are highly correlated, they are two distinct concepts. Innovation implies the generation and the implementation of novel and useful ideas (Wallace, Butts, Johnson, Stevens, & Smith, 2016). The members of innovation teams are required to generate and identify creative ideas and critical process and discuss new ideas to discard the impractical ones and elaborate and implement seemingly promising ideas (Amabile, Conti, Coon, Lazenby, & Herron, 1996).

The previous literature mostly viewed innovation as an attribute and essentially ignored the two phases of innovation: the creative process phase and the implementation

phase (Ford, 1996). The creative process can be further divided into three: the idea generation, the idea selection, and the idea elaboration stages (Amabile, 1988; Amabile et al., 1996; Elsbach & Flynn, 2013; George, 2007).

In this study, team innovation is defined as the generation and implementation of ideas, products, services, processes, and procedures that are novel and useful to a team. It focuses on team innovation because many organizations, in practice, have switched to team-based work systems to increase their ability to boost innovation (Pirola-Merlo, Mann, 2004). Theoretically, team innovation is embedded in complex social interactions and cannot be viewed as the simple average of individual innovations. Similar to most definitions of creativity (e.g., Amabile et al., 1996; West & Farr, 1990; Woodman, et al., 1993), the definition of innovation takes into account the innovation process (idea generation, and idea implementation), innovation content (ideas, products, services, processes, and procedures) and innovation description (novel and useful). Recent research has shown that, in the idea generation stage, teams may have lower demands for internal interactions and multilateral influences than teams dealing with the idea implementation stages (Girotra, Terwiesch, & Ulrich, 2010). Anderson, Potočnik, and Zhou (2014) proposed that idea generation primarily involves intra-individual cognitive processes, while the subsequent idea polishing, and implementation process mainly reflects inter-individual social processes. Conceptually, the idea implementation stage is more aligned with shared leadership than the idea generation stage. In addition, the idea generation does not need to lie within an organization. Novel ideas can also be generated by individuals, such as private friends and clients, outside of the focal organization (Anderson et al., 2014; Zhou, & Shalley, 2010).

Employees who purposefully introdue and apply a novel idea or practice are engaged in innovative activities. In practice, the idea selection and elaboration can also be based on external creative ideas. Therefore, the difference between the effects of shared leadership in the idea generation stage and the idea implementation stage needs to be investigated. This study adopts a traditional two-stage perspective to define innovation by addressing both the idea generation stage and idea implementation stage.

Shared Leadership and Team Innovation

The generalized exchange theory asserts that shared leadership facilitates intragroup multidirectional reciprocal interactions (Seers et al., 2003). In other words, Member A may exhibit behaviors that are beneficial to Member B. However, reciprocal behaviors by Member B may be directed to the whole group or to Member C rather than being specifically directed to Member A. A high level of shared leadership in a team implies significant mutual influences among team members. Communication is more frequent, and give-and-take information, expertise, and skills are shared more regularly; hence, team members are exposed to a larger information pool, thus enhancing their creativity. Furthermore, regular interaction can encourage internal trust climate and increase perceived psychological safety, which is critical in team collaborations (Mcevily, Perrone, & Zaheer, 2003). In most cases, team innovation is the result of the crystallization of collective intelligence and creativity. Some scholars claim that team innovation is a social process that requires effective collaboration between individuals (Rouse, 2018; Kark & Carmeli, 2009). Both individual creativity and social interaction and integration are fundamental for

team innovation. Team innovation is not just the average of separate creativity because most team innovations are based on the integration of novel and useful ideas from individuals, where effective interaction and communication among team members is necessary. The ability to learn from and leverage new ideas through team interaction, sharing, and communication affects the level of team innovation capacity. Furthermore, the implementation of ideas also largely depends on smooth team cooperation. Flap and Volker (2001) found that a high level of trust and collaboration within a team enhances the team innovation level. Therefore, this study proposes the following hypothesis:

Hypothesis 1: *Shared leadership is positively related to team innovation.*

Mediating Effect of Information Sharing

Shared Leadership and Information Sharing

A key concept in team research is information sharing (Bunderson & Sutcliffe, 2002). Information sharing is defined as the extent to which team members share on-the-job knowledge, perspectives, and suggestions with others (Staples & Webster, 2008). Wah (1999) surveyed approximately 2000 U.S. companies and found that 34% of firms adopted an information management system Information sharing is an essential component of information management and helps organize the available information within the team (Liebowitz, 1999). Information sharing is a core team process, which increases the available knowledge and expose team members to a larger information pool, and in the process, utilize available cognitive resources (Argote, 1999). However, information sharing does not happen automatically in a team (Gu, Woodman, Huang, Liu, & Huang, 2016) and

the team leadership create a conductive environment for it to happen. For example, prior research showed that for information sharing to occur, leadership behaviors such as empowering is needed (Srivastava, Bartol & Locke, 2006).

When the level of shared leadership is high, team members are more willing to share their unique information with other members and encourage their coworkers to engage in information sharing because they know what information is new to others based on the transactive memory system created by shared leadership. Thus, information sharing is a possible benefit of shared leadership.

On the one hand, shared leadership enhances information sharing, especially non-overlapping information, and enhances team empowerment by increasing the team members' sense of responsibility, potency, and autonomy (Hooker & Csikszentmihalyi, 2003). Furthermore, shared leadership can create a pattern of generalized exchange and influence, in which individual contributions spread out over time and across groups as team members are often involved in multiple mutual exchange. Compared to restricted exchanges within a dyad, multiple and indirect exchanges in the team can effectively build group solidarity and trust (Seers et al., 2003). Trusting relationships allow team members to feel comfortable and safe about not being rejected or ridiculed, thus encouraging them to exchange information with other coworkers or even formal leaders (Gu et al., 2016).

On the other hand, research has shown that shared leadership is positively related to transactive memory systems (Hoch & Morgeson, 2014), which transmit knowledge about the team task and the expertise to the various team members (Burke, Fiore, & Salas, 2003). The informal leadership roles that characterize shared leadership allows team members to

achieve a better understanding of the team shared information and knowledge, reducing redundant information sharing. Avoiding redundant information significantly enhances the quality of decision-making, creative problem-solving, and innovation ability (Hoch & Morgeson, 2014). Teams typically spend less time discussing originally unshared and secret information over shared information (Stasser & Titus, 1985). Stasser and Titus (1985, 1987) used a hidden profile task to reveal that teams would benefit the most from sharing of non-redundant information. In this respect, shared leadership could overcome sharing bias in team interactions.

To put it briefly, shared leadership creates a favorable climate for information sharing by increasing individuals' sharing motivation and enables team members to gain a better understanding of the information and knowledge distribution within the team, thus increasing the quality of interactions and decreasing redundant information sharing. Therefore, this study proposes the following hypothesis:

Hypothesis 2: *Shared leadership is positively related to information sharing.*

Information Sharing and Team Innovation

Previous research showed that information sharing is essential for developing team innovation (e.g., Carmeli & Paulus, 2015; Dong, Bartol, Zhang, & Li, 2017). By sharing information, team members can broaden their knowledge and skill sets. More information can broaden team members' perspectives and provide them with more of the "raw materials" that can be interconnected, thus enhancing individual creativity and subsequently improve collective problem-solving, the quality of decision-making, and the team innovation

capacity (Lawson, Petersen, Cousins, & Handfield, 2009). For example, the remote associated task (RAT) theorizes creativity to be the capability of linking two different and independent ideas (Lee, Huggins, Therriault, 2014). In their categorization-elaboration model (CEM), van Knippenberg, de Dreu and Homan (2004) also argued that a larger information pool supports team performance in team innovation and decision quality. Stasser and Titus (1985) found evidence that, beyond sharing ideas, increased information sharing facilitates a more thorough consideration of alternatives and better utilization of the existing information within a team, thus leading to better idea generation.

From the social exchange perspective, information sharing can facilitate smoother social collaboration, which is critical for integrating individual creativity and enhancing team innovation in organizations. This study argues that information sharing contributes to the creation of shared mental models and facilitates better synchronization and cooperation among team members. Team members are aware of who is in charge for each assignment, what the information requirements are, and how the team should process information (Mathieu, Heffner, Goodwin, Salas, & Canon-Bowers, 2000). As a result, team members anticipate their reciprocal needs, are synchronized, and cooperate at work (Stout, Cannon-Bowers, Salas, & Milanovich, 1999). Okhuysen and Eisenhardt (2000) argued that information sharing creates, over time, an intuitive capability of team members to recognize and process information in blocks or patterns. This intuition is faster than processing fragmented pieces of information. Therefore, in the long run, information sharing can facilitate the formation of collective intuition. Team members progressively learn to understand even subtle cues from each other and fill in the blanks as they proceed forward

(Isenberg, 1988). Thus, information sharing helps the development of shared mental models that facilitate coordination among team members during the idea implementation stage, thus achieving higher team innovation. Therefore, this study proposes the following hypothesis:

Hypothesis 3: *Information sharing is positively related to team innovation.*

Mediating Effect of Team Potency

Definition of Team Potency

Team potency, as an important motivational state in teams (Chen & Kanfer, 2006), is defined as team members' shared belief that the team can be effective (Campion, Medsker, & Higgs, 1993). This concept was first proposed by Shea and Guzzo (1987) as a key determinant of team effectiveness. Hu and Liden (2011) later described team potency as a belief by a group about their collective capabilities.

Potency is closely related to team efficacy because both constructs involve beliefs regarding team capabilities. Empirical studies showed that positive views in a team exert positive impact on collective motivation, team processes and eventually team outcomes (e.g., Sivasubramaniam, Murry, Avolio, & Jung, 2002). Although team potency is conceptually linked to team efficacy, Gibson (1996) suggested that these two constructs are distinct. While team potency emphasizes the general beliefs in general team capabilities of reaching collective effectiveness (Guzzo, Yost, Cambell, & Shea, 1993), whereas team efficacy is task-specific (Gibson & Earley, 2007). For example, in an animation team characterized by high efficacy and low potency, team members may believe that they have

designed a popular new animated cartoon but may not believe that they can effectively produce, market, and sell the cartoon. This study investigates the entire process of team innovation, from the proposal to the implementation of novel ideas. Gully, Incalcaterra, Joshi, and Beaubien (2002, p. 820) argued that "the predictive utility of team-efficacy and potency thus may vary depending on the prediction of performance on a specific task or generalized performance". In addition, team potency cannot be understood as the simple average of the individual self-efficacy of team members, and it forms independently from individual self-efficacy (Zaccaro, Blair, Peterson, & Zazanis, 1995). Therefore, this study proposes team potency rather than team efficacy as the mechanism to bridge between shared leadership and team innovation.

Shared Leadership and Team Potency

Shared leadership can also be seen as a cohesive internal leadership process composed of emergent reciprocal influences (Carson et al., 2007) and generates higher confidence in the team capabilities by improving team collaboration and collective controllability. First, the complexity of current business settings, possible fluctuations, and unanticipated difficulties requires team members' cooperation. Shared leadership creates an open-minded and cohesive environment, which helps team members promote a shared interpretation of the volatile environment so as to gain comparative edges. As a result, team members are motivated to collaborate and keep positive attitudes about their team's potential (Fry, Vitucci, & Cedillo, 2005; Pawar, 2008). Therefore, this study argues that this positive team climate created by shared leadership is fundamental to effective team collaboration and

beneficial to team confidence about team capability.

Second, shared leadership is characterized by mutual influences, which generate a sense of connection within the team (Diefendorff & Lord, 2008). The opportunity to influence others generates a higher sense of autonomy and control, and team members become inclined towards assuming a broader range of roles within the team (Boies, Lvina & Martens, 2011). This collective feeling of connection, autonomy, and competence enhances the confidence in the team capabilities. Therefore, this study proposes the following hypothesis:

Hypothesis 4: *Shared leadership is positively related to team potency.*

Team Potency and Team Innovation

Previous research showed that team potency results in positive team outcomes (e.g., Shea & Guzzo, 1987; Duffy & Shaw, 2000). Gully et al. (2002) estimated that the correlation between team potency and performance is .41, thus suggesting that team potency is a fundamental asset for a modern company and fosters team innovation. Potency belief, as an essential motivational factor, facilitates individual creativity and team innovation (Reiter-Palmon & Illies, 2004) by enhancing team members' confidence in their capacity to face new challenges and tolerate ambiguous and uncertain situations (Gully et al., 2002).

On the other hand, team potency pushes team members to work collectively towards their shared objectives, even when they face hindrances and ambiguities (Hu & Liden, 2011). This attitude generates better innovation and effective performance (Gibson, 1999).

Team members are less likely to succumb to difficulties and will invest more resources and effort in performing a task (Miron-Sperktor, Erez, & Naveh, 2011). The innovation process is characterized by difficulties and obstacles, such as limited funding, employee turnover, internal disagreements, and external dynamic market environments. Therefore, the greater trust induced by team potency guarantee members' high and recurring engagement in innovative tasks, which translates into innovative outcomes (Fay & Frese, 2001). On the other hand, common potency beliefs increase team members' tolerance of uncertainty (Miron-Sperktor et al, 2011), thus facilitating exploratory actions that are beneficial to the team, such as the innovative behavior. Therefore, this study proposes the following hypothesis:

Hypothesis 5: *Team potency is positively related to team innovation.*

Moderating Effect of LMX Differentiation

A central question in the leader-member exchange (LMX) theory is whether LMX simultaneously operates at various levels to impact individual perceptions, motivations, and behaviors (Liden, Erdogan, Wayne, & Sparrowe, 2006). Previous empirical and theoretical research has explored how individual-level LMX quality influences individual- or team-level outcomes (Schriesheim, Castro, Zhou, & Yammarino, 2001). Although individual-level LMX quality reflects the social interactions between a leader and an organization's members, it does not represent the social context that arises from the differentiation in LMX quality between different leader-member dyads and social comparison processes within groups. This study argues that phenomenon influences impact of shared leadership on team

information sharing and team potency because higher perceived unfairness will hinder the team's collective engagement and frustrate team members' confidence in the team capability.

Definition of LMX Differentiation

The LMX theory was initially regarded as a substitute for the traditional leadership method that conceptualizes leadership as the average of the subordinates' perceptions of the leader's behavior. Graen, Dansereau and Minami (1972) argued that the variances among subordinates' perceptions is also a significant element and proposed that that the differences between different leader-member dyads reflected differences in the leader-member relationship quality.

Therefore, according to Graen et al. (1972), the LMX differentiation is conceptualized as a process by which a leader interacts with subordinates in different patterns and builds different relationships. As such, The LMX differentiation reflects within-team variation in leader-member relationships (Liden et al., 2006).

How LMX Differentiation Interacts with Shared Leadership

Research has recently begun to explore whether the LMX differentiation is detrimental to team interactions and relationships. Hooper and Martin (2008) found that group-level variability in LMX quality has a negative link with subordinate relationships. Based on Heider's (1958) balance theory, Sherony and Green (2002) explained this phenomenon: individuals strive to achieve balance in their attitudes towards peers or partners. For

example, in a three-member team, if both Member A and Member B maintain positive relationships with the team leader, then, Members A and B are more likely to maintain a constructive relationship. This result indicates that relationship quality among team members increases as the coworkers' similarities in the LMX quality grows, which implies that the LMX differentiation decreases (Henderson, Liden, Glibkowski, & Chaudhry, 2009). Perceived fairness may play a pivotal role in this process. Sias and Jablin (1995) showed that the perception of fairness can affect individuals' preferences for interactions with coworkers. Therefore, in a shared leadership network, the LMX differentiation may reduce the positive impact of shared leadership on information sharing by negatively affecting cooperative relationships among team members. Breaking cooperative interactions, in turn, damages a team members' motivation for sharing information with others as they are more likely to view their coworkers as competitors. At the same time, in high LMX differentiation teams, team members are more likely to focus on resource gaining rather than resources sharing because anyone could be treated unfairly (Baker, & Omilion-Hodges, 2013). In this case, team members prefer to withhold their knowledge, hide unique but valuable information and even directly avoid interacting with their peers (Henderson et al., 2009). Therefore, this study proposes the following hypothesis:

Hypothesis 6: *LMX differentiation negatively moderates the positive relationship between shared leadership and information sharing, such that the relationship is stronger when the LMX differentiation is lower.*

Moreover, high LMX differentiation may also lead to social categorization (van

Knippenberg & Schippers, 2007). Relational boundaries are introduced into the team, and in-group and out-group members emerge (Baker & Omilion-Hodges, 2013), thus hindering trust and information sharing in the team. Both in-group and out-group members likely decrease their confidence in the team capabilities. On the one hand, in-group members benefit from perceived safety and advantages that do not translate into potency due to worries about becoming out-group members. On the other hand, out-group members perceive social exclusion and lack comprehensive understanding of team goals and processes. They can even become suspicious of their peers (Henderson, Wayne, Shore, Bommer, & Tetrick, 2008). In this case, mutual leadership influences become ineffective and are often misunderstood. Therefore, in a team with high-level LMX differentiation, the positive effects resulting of multidirectional exchange relationships on team potency disappear. Both in-group and out-group members will display lower potency. Therefore, this study proposes the following hypothesis:

Hypothesis 7: *LMX differentiation negatively moderates the positive relationship between shared leadership and team potency, such that the relationship is stronger when the LMX differentiation is lower.*

Moderating Effect of Innovation Stage

One of the primary challenges facing teams, particularly high-technology teams, is managing innovation as the team evolves (van de Ven, 1986). Innovativeness depends on the team's innovation stage because tasks and team attributes evolve. According to the definition of innovation, the innovation stage includes the idea generation stage and idea

implementation stage (Wallace et al., 2016). Therefore, according to the creativity and innovation literature and our research context, this study adopts the two-stage perspective of innovation, which claims that innovation involves (1) an idea generation stage and (2) an idea implementation stage.

Research found that an interdependent work environment may not change the average quality of the ideas generated by team members but can induce them to pursue consistency and finally produce average ideas, thus contradicting the divergent thinking pattern that is central to idea generation (Girotra et al., 2010; Puccio, Cabra, 2012; Thayer, Petruzzelli, & McClurg, 2018). As a result, although the worst ideas are abandoned in group work in the idea generation stage, the best ideas are also likely discarded. For example, previous researchers found that interacting groups produce less original and more feasible ideas than individuals who work alone (Rietzschel, Nijstad, & Stroebe, 2006; Valacich, Dennis, & Connolly, 1994). The idea generation state does not aim to maximize the number of feasible ideas or improve the average quality of ideas (Girotra et al., 2010). Most organizations or teams would prefer to generate a few very good ideas. Therefore, in the idea generation stage, the positive influence of information sharing on team innovation is limited.

Further, ideas have to be carefully selected, elaborated, and implemented, which requires groups or teams to collaborate (Thayer et al., 2018). Unlike in the idea generation stage, convergent thinking, persistence, and conscientiousness play more essential roles in the idea implementation stage (Bledow et al., 2009). Effective idea implementation mostly relies on multi-source suggestions and feedback. In this stage, detailed problem-solving depends on the interaction and integration of team intelligences. Team coordination and

interactive buildup, facilitated by shared leadership, improves the identification and implementation of the best ideas. Therefore, this study proposes the following hypothesis:

Hypothesis 8: *The positive effect of information sharing on team innovation is stronger in the idea implementation stage than in the idea generation stage.*

This study argues that the idea generation is more dependent on individual intelligence, while idea implementation is more easily influenced by team potency. Although both cognitive and motivational factors affect creativity, we assert that intelligence is the ground on which other factors come into effect. For example, an individual with high motivation to succeed in a creativity competition may fail because he/she cannot conceive a novel idea. However, if the same person is in charge of the idea implementation stage, he/she may outperform others because he/she is more likely to overcome small difficulties and persist in such tasks. When tasks are not essentially based on an individual's intelligence, the role of motivation is more significant.

Hypothesis 9: *The positive effect of team potency on team innovation is stronger in the idea implementation stage rather than in the idea generation stage.*

Overview of the Conceptual Framework and Research Questions

The proposed theoretical model (Figure 1) describes how shared leadership influences team innovation. A team characterized by higher shared leadership is expected to foster innovation through team-level cognitive and motivational mechanisms.

The mediating model details how shared leadership facilitates the emergence of an

appropriate organizational context for team innovation, which implies two mechanisms: (1) team-level information sharing which serves as the cognitive basis for the positive relationship between shared leadership and team innovation; (2) team-level potency, or the collective confidence on team capacity, which serves as a motivational mechanism.

Furthermore, team innovation is contingent on LMX differentiation and the innovation stage. More specifically, low LMX differentiation usually increases the positive effect of shared leadership on team information sharing and team potency. Furthermore, information sharing and team potency will display positive impacts on team innovation in the idea implementation stage, but not in the idea generation stage.

CHAPTER 3 METHODOLOGY

The methods and procedures used to test the hypotheses presented in Chapter Two are described in the following subsections: Research Sample and Procedures, Team Leadership Pattern and Social Network Methodology, Measures, and Data Analysis.

Research Samples and Procedures

The sample consists of 60 work teams from a company in China, with 5-12 members in each team. Based on Cohen's (1992) power analysis, to detect a moderate effect with a significance test at $\alpha = .05$, the necessary sample size is 85. However, from a practical perspective, Shen et al. (2011, p. 1058) found that during the period 1995 to 2008, the overall median sample size of articles published in the Journal of Applied Psychology (JAP) at the team level of analysis is approximately 62. (2). In the research field of shared leadership, according to Carson et al. (2007), 60 team-level samples are sufficient for analysis. The company addressed in this study comprises 60 creative task teams that meet the research criteria. All these teams are stable, meaning that no significant team structure changes occurred during the survey period. The company is specialized in animated movies, electronic games, and educational products . Each work team includes product designers and technical support staff. Team innovation is an important performance indicator for these teams.

A longitudinal study design was adopted. All members in the selected task teams, including formal supervisors and subordinates, were invited to participate in the study after IRB approval was obtained and participants voluntarily consented to the study. At Time 1,

formal team leaders were given a questionnaire which included demographic information in Time 1 (e.g. age, gender, team tenure etc.). Team members completed a questionnaire that addressed shared leadership, team information sharing, team potency, LMX differentiation, control variables (team diversity, task interdependence) and demographic information (e.g., age, gender, job tenure etc.). Three months later at Time 2, team leaders filled out the second questionnaire, in which they were asked to report on the team innovation and the innovation stage (see *Table 1*).

Insert Table 1 about here

During Time 1 of the data collection process (Time 1), the human resources (HR) department assisted in distributing the surveys, and a debriefing letter promising confidentiality and voluntary participation was sent to team leaders and team members. A total number of 314 responses from 329 subordinates (95.44%) and 60 responses from 60 team leaders (100%) were received at Time 1, and 60 response from 60 team leaders (100%) at Time 2. The average number of team members is 6.48 (range = 4-11). The company sponsorship, as well as the strong and well-organized support from the company's HR department, have been determinant in obtaining such a high response rate.

Among the subordinates, 102 (32.70%) are female employees, and the overall average corporate tenure is 24.58 months (s.d. = 16.87). The average age of all respondents is 28.79 years old (s.d. = 3.59). In total, 269 (81.76%) respondents have a bachelor's degree or higher. Among the leaders, seven (11.90%) are female, and their average corporate tenure is 30.79 months (s.d. = 26.39). The average age is 32.53 years (s.d. = 3.62), and 47 leaders (78.33%)

have a bachelor's degree or higher.

Measures

All surveys used at both data collection points were in Chinese. Translation/back-translation procedures (Brislin, 1980) were followed to translate the English measures into Chinese. Unless otherwise noted, respondents rated all items using a seven-point Likert scale ranging from one (strongly disagree) to seven (strongly disagree). Shared leadership was measured using a social network approach. Team information sharing, team potency, and leader-member exchange differentiation were reported by team members, while team innovation and innovative stage were reported by the team supervisors.

Team Innovation. Team innovation refers to "the introduction or application of ideas, processes, products, or procedures that are new to the team and that are designed to be useful" (West, 1990, p.309). Shin and Zhou's (2007) two-item team creativity scale and de Dreu and West's (2001) four-item scale were combined to fully capture the construct. An example item is "My team produces new ideas." Data on this construct were collected from formal team leaders.

Shared Leadership. Shared leadership was measured following a social network approach (Carson et al., 2007; Mayo, Meindl, & Pastor, 2003) by using density, which measures the total leadership assumed by team members within the team (Mayo et al., 2003). All team members rated each of their peers using a seven-point Likert scale ranging from one (not at all) to seven (to a very great extent) on the following questions: "To what degree does your team rely on this individual for leadership?" and "To what extent do you rely on this team member for leadership?" To calculate density, all values (the team members'

ratings of each other's leadership) were added, and the sum was divided by the all possible ties or relationships among the team members (Sparrowe, Liden, Wayne & Kraimer, 2001), as follows:

$$Density = \frac{L}{g(g-1)}$$

where g is the total number of team members, and L is the sum of all links.

Teams in which members identify most of their peers as leaders yield higher density scores compared to teams in which fewer members are perceived as exerting leadership within the team.

Information Sharing. De Dreu's (2007) six-item scale was used to assess information sharing. All items were rated by team members on a scale ranging from one (rarely) to seven (very often). An example item is "Members of my team inform each other about work-related issues".

Team potency. Team potency was measured using Guzzo, Yost, Campbell, and Shea's (1993) eight-item scale. All items were rated by team members on a seven-point Likert scale ranging one (strongly disagree) to seven = (strongly agree). An example item is "My team believes it could be extremely good at producing high-quality work".

Leader-Member Exchange Differentiation. The variance in the individual-level LMX scores for each task team was used to capture the team-level variability in LMX. Team members assessed LMX quality using the seven-item scale proposed by Graen and Uhl-Bien (1995). An example item for this measure is "I usually know where I stand with my supervisor".

Innovation Stage. The innovation stage was assessed by formal supervisors. The

questionnaire included detailed descriptions about the idea generation stage and idea implementation stage. Respondents were asked to indicate which of the two descriptions best characterizes their team during the two surveys.

Control Variables. Controls for cognitive diversity and task interdependence were introduced. Previous research showed that team creative performance and innovation can be predicted by team diversity (van Knippenberg, & Schippers, 2007), and team innovation has been found to have a close relationship with task interdependence (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007). I used Campion et al.'s (2013) three-item scale and Shin, Kim, Lee and Bian's (2012) four-item scale were used to measure task interdependence and cognitive diversity, respectively.

Data Analysis

In line with previous studies, the above-mentioned research hypotheses were addressed by two interlinked steps. First, this study is a team-level research, but some variables (for instance, team information sharing and team potency) are measured at the individual level. Therefore, I examined whether these variables can be aggregated at the team level using either the consensus-based or the additive approach (Chan, 1998). Then, I conducted a confirmation factor analysis (CFA) to investigate the discriminant validity of different constructs. Finally, I performed the proposed dual mediation model of the effect of shared leadership on team innovation through team information sharing and team potency. To evaluate the mediating effects, the bootstrap approach, which was recommended by Preacher and Hayes (2004) was used. Last, I incorporated the proposed moderator (LMX

differentiation) into the model and tested the overall moderated mediation hypothesis.

Data Aggregation

The team-level variables, such as team information sharing and team potency, were measured based on the consensus-based or additive approach (Chan, 1998), except for shared leadership (assessed by the network approach) and team innovation and innovative stage (measured by the supervisor-rated value).

Although the standard value for the aggregation indices is not absolute (Biemann, Cole, & Voelpel, 2012), previous research suggested that a within-group interrater reliability (RWG) value greater than .70 is enough to validate the aggregation (Bliese, 2000). For inter-class correlation (ICC)[1] and ICC[2], the value of .12 and .60 are recommended (James, 1982; Schneider, White, & Paul, 1998; Glick, 1985), respectively. With respect to team information sharing, the data show a high interrater agreement (rwg_median=.92) and an adequate of ratio within/between the group variance (ICC[1]= .18; ICC[2]= .56), thus suggesting that aggregation is justified. Concerning team potency, the data Indicate a high interrater agreement (rwg_median=.98) and an adequate ratio within/between the group variance (ICC[1]= .13; ICC[2]= .54), thus confirming that aggregation is justified.

Confirmation Factor Analysis

The targeted variables (shared leadership, team information sharing, team potency, LMX differentiation, innovative stage, and team innovation) were calculated based on the team members' rating, which raises the issue of common method/source bias (Podsakoff,

Mackenzie, Lee, & Podsakoff, 2003). We implemented several strategies to detect and minimize this potential problem based on established recommendations (Podsakoff, MacKenzie, & Podsakoff, 2012).

CFA was also performed to examine whether the target variables capture different constructs (Rego, Vitória, Magalhães, Ribeiro, & Cunha, 2013). The CFA model evidences good discriminant validity for the five-factor baseline model, which comprises shared leadership, team information sharing, team potency, leader member exchange differentiation and team innovation ($\chi2$ (367) = 903.82, $p < .01$; CFI = .90, TLI = .90, RMSEA = .07, SRMR = .05). This specification performs better than alternative models (see Table 2). Alternative specifications include a four-factor model, in which the indicators of team information sharing and team potency are set to load on a single factor ($\Delta\chi2(4) = 217.21$, $p < .01$; CFI = .87, TLI = .85, RMSEA = .08, SRMRwithin = .06); a four-factor model, in which the indicators of shared leadership and LMX differentiation are set to load on a single factor ($\Delta\chi2(4) = 1132.26$, $p < .01$; CFI = .70, TLI = .67, RMSEA = .12, SRMR = .18); a three-factor model, in which the indicators of team information sharing, team potency, and team innovation were set to load on a single factor ($\Delta\chi2(7) = 1542.99$, $p < .01$; CFI = .63, TLI = .60, RMSEA = .13, SRMR = .13); and a one-factor model, in which the indicators are set to load on a single factor, respectively ($\Delta\chi2(10) = 2553.26$, $p < .01$; CFI = .45, TLI = .41, RMSEA = .16, SRMR = .15).

Insert Table 2 about here

CHAPTER 4 RESULTS

Descriptive Statistics and Correlations

Table 3 summarizes the means, standard deviations, correlations, and reliabilities of all the measured variables. As expected, shared leadership is positively related to information sharing ($r = .29$, $p < .05$) and team potency ($r = .28$, $p < .05$). Although team innovation is not significantly related to shared leadership ($r = .16$, $p > .05$) and team potency ($r = .18$, $p > .05$), both variables display a positive relationship with team innovation.

Insert Table 3 about here

Tests of Hypotheses

As shown in Table 4 and Figure 2, the results of structural equation modeling (obtained via Mplus software) indicate that shared leadership does not significantly and directly predict team innovation ($B = .20$, s.e. $= .24$, $p > .05$); hence, Hypothesis 1 is not supported. However, shared leadership positively predicts team information sharing ($B = .26$, s.e. $= .09$, $p < .01$) and team potency ($B = .29$, s.e. $= .12$, $p < .01$), thus supporting Hypothesis 2 and Hypothesis 4. Moreover, team potency is positively related to team innovation ($B = .61$, s.e. $= .38$, $p < .05$), thus supporting Hypothesis 5. Information sharing is not related to team innovation ($B = -.48$, s.e. $= .53$, $p > .05$); hence Hypothesis 3 is not supported.

Insert Figure 2 about here

As shown in Table 4, the indirect effect of shared leadership on team innovation through team potency (indirect effect = .15, s.e. = .10, 95% CI = [.03, .41]) is statistically significant. Team potency mediates the effect of shared leadership on team innovation. However, team information fails to mediate the relationship between shared leadership and team innovation (indirect effect = -.10, s.e. = .08, 95% CI = [-.36, .03]).

Insert Table 4 about here

Hypotheses 6 and 7 describe the proposed two first -stage moderated mediation models (Edwards & Lambert, 2007), where LMX differentiation interacts with shared leadership in the relationship between team information sharing and team potency. The results in Table 4 suggests that the LMX differentiation does not significantly moderate the effect of shared leadership on information sharing (B= .05, s.e. = .24, $p > .05$) and team potency (B= .27, s.e. = .33, $p > .05$); hence, Hypotheses 6 and 7 are not supported.

Hypotheses 8 and 9 describe the positive effect of information sharing and posit that team potency is stronger in the idea implementation stage than in the idea generation stage. As shown in Table 4, the interaction effect of team innovation stage on both paths is not significant. Therefore, hypotheses 8 and 9 are not supported.

Additional Data Collection and Analysis

To examine the robustness of the research results, three months after the second-round of data collection, I invited the team leaders to report their team creativity. I chose creativity

rather than innovation as the dependent variable for two reasons: first, this was an additional data collection, which was not well-clarified in the participants' consent form. Therefore, I directly interviewed the team leaders for only five minutes and chose the most synthetic scale used in the literature. Oldham and Cummings (1996) utilized a three-item scale, and every item has a clear description of creativity. Example items includes "How creative is this team's work? Creativity refers to the extent to which the team develops ideas, methods, or products that are both original and useful to the organization" ($\alpha = .77$). Second, creativity is highly correlated with innovation. All 60 team leaders agreed to rate their teams' creativity.

I performed again the above-mentioned steps of analysis. The results show that the mean of team creativity is 5.38 (s.d. = 0.78). Team creativity is positively related to shared leadership ($r = 28$, $p < .05$) and team innovation ($r = .40$, $p < .01$). Both team potency ($r = .21$, $p = .11$) and team information sharing ($r = .05$, $p = .73$) are not significant related to team creativity.

The path analysis indicates that both team potency and information sharing mediate the relationship between shared leadership and team creativity. The direct effect of shared leadership on team creativity is statistically significant ($B = .38$, s.e. = 15, $p < .05$). Moreover, shared leadership could also positively predict team potency ($B = .26$, s.e. = 11, $p < .05$) and team information sharing ($B = .22$, s.e. = 08, $p < .05$). Team potency positively affects team creativity ($B = .86$, s.e. = 27, $p < .01$). The indirect impact of shared leadership on team creativity through team potency (indirect effect = .22, s.e. = .10, 95% CI = [.06, .49]) is statistically significant. Surprisingly, team information sharing negatively affects team creativity ($B = -1.10$, s.e. = 36, $p < .01$), and the indirect effect of shared leadership on team

creativity through team potency (indirect effect = -.24, s.e. = .13, 95% CI = [-.59, -.05]) is also significant. The moderating effect of LMX differentiation is not statistically significant. I did not include the innovation stage in this data analysis because creativity focuses on the idea generation stage. To put it briefly, shared leadership can increase team creativity through team potency and decrease it via team information sharing. Overall, in this study, shared leadership is found to enhance team creativity.

CHAPTER 5 DISCUSSION

This study examines why, how, and when shared leadership facilitates team innovation. The results indicate that team potency to mediates the effect of shared leadership on team innovation and the innovative stage to moderates the relationship between team potency and team innovation. Team potency only has a positive effect on team innovation in the idea implementation stage. However, the results of the supplementary analysis indicate a significant effect of shared leadership on team creativity. The mediating effect of team potency is further confirmed.

Theoretical Implications

Despite early claims of the importance of shared leadership (e.g., Katz & Kahn, 1978), team leadership theories have primarily focused on the role of formal leaders (Carson, 2007) and relied on existing theories of shared leadership at the team level (D'Innocenzo et al., 2014). In contract, this study explores how and when shared leadership has a positive or negative impact on team innovation, a crucial element for organizations' competitiveness and survival.

This study makes several theoretical contributions to the domains of team innovation and team leadership. First, the study's results show that shared leadership has a positive impact on team innovation through team potency. So far, no comprehensive theoretical study has investigated how shared leadership influences team outcomes, and very few studies addressed the mechanisms through which shared leadership enhances team innovation. The mediation effect of team potency on shared leadership and team innovation contributes to

uncovering the link between team leadership embedded in multi-directional interactions and team outcomes.

Second, the knowledge of shared leadership and team innovation has been extended by identifying the innovation stages as a moderator that influences the extent to which shared leadership improves team innovation through team potency. Specifically, this study found that the effect of shared leadership on team innovation is weaker in the idea generation stage than in the idea implementation stage. Previous studies have proposed that innovation is driven by different factors at each stage (e.g., Girotra et al., 2010). This study confirms that team potency functions differently in different innovation stages, thus enhancing the understanding of the boundary conditions under which shared leadership can function properly.

Practical Implications

This study offers several practical implications for leaders, managers, followers, and organizations. Given the increasing importance of collaborations in work force, the image of a lone creative genius seems to be odds with the current path of innovation in organizations. Many organizational stories are built around teams that create and innovate together. Team innovation is a social process that benefits from effective information sharing between individuals and high team potency. Shared leadership plays an essential role in enhancing team potency, boosting a team's collective motivation and confidence for engaging in innovative activities. However, information sharing does not mediate the relationship between shared leadership and innovation, and at times, it may expose

individuals to the risk of redundant, repetitive, or paradoxical information. Information sharing is also time-consuming, and information overload could eventually reduce team innovation. As a result, extra time and energy are spent on management procedures and for resolving internal conflicts on perspectives.

In the presence of shared leadership, formal leaders continue to control the team processes and offer guidance. This study proposes two suggestions for managers. First, allowing mutual influences among team members is an effective way to boost team innovation because it promotes team potency. Second, shared leadership does not positively affect team innovation at every stage. The formal leader in a work team should maintain clear awareness of which stage the team is in and, then, decide on the most appropriate managerial practices.

Strengths, Limitations and Future Directions

This research has several noticeable strengths. First, I used a social network approach to capture shared leadership. Compared with the traditional referent-shift approach (D'Innocenzo et al., 2016), the social network approach better reflects the interactive nature of shared leadership (e.g., Carson et al., 2007; D'Innocenzo et al., 2016). This approach also addresses Yukl's (1998) argument that the complex nature of leadership should be described and analyzed in social systems. Shared leadership is a relational concept. The social network approach assumes that individuals are embedded in a social network, and the relationship is the basic component of the organization. Furthermore, the social network perspective has developed sophisticated methodological tools to describe the relations and analyze social

structures. The essence of shared leadership is a multi-directional influence process, and the social network perspective can effectively address the nature and structure of influence networks. Therefore, in this research, I adopted the social network approach to define and operationalize shared leadership. Second, this study collected data using a multi-source, multi-time, and multi-method approach. The proposed research design greatly reduces the possibility that the study's findings are influenced by common method bias or same source bias.

Aside from these advantages, this study also has several limitations. First, although the results indicate an indirect impact of shared leadership on team innovation through team potency, the correlation coefficient in the relationship between shared leadership and team innovation is not significant. Future research needs to replicate the findings of this study to address this point. Second, no significant mediating effect of team information sharing is found. This study does not differentiate the information types. However, sharing positive information or negative information may exert a different influence on team members. Positive information may enhance team morale and encourage exploratory behaviors, thus facilitating team innovation. Sharing negative information may frustrate team members and induce inhibitive behaviors. In real-world team interactions, both positive and negative information is simultaneously shared, which may lead to non-significant impact of information sharing on team innovation. In addition, redundant information sharing may also take place in team interaction, thus decreasing effective innovation. Previous research (e.g., Hoch, 2013; Pearce et al., 2008) has ignored the information redundancy and overload effects. As suggested by the cognitive resource theory, excess information is not necessarily

positively related to decision-making quality and performance. The information influx may overload the limited cognitive resources (Vecchio, 1990). Future studies should address the paradoxical nature of information sharing and its impact on team outcomes.

Second, the time lag between the two measurements (three months) might insufficient for a product team to evaluate innovation. While significant benefits were acknowledged in the idea generation stage (as confirmed by the supplementary analysis), the idea implementation only marginally improved within three months. This is a characteristic phenomenon in teams characterized by high-level information sharing. Team members spend a lot of time addressing critical issues raised by their peers, thus affecting the current performance evaluations. However, in the long run, these teams are more likely to produce satisfactory outcomes. In addition, this study only addressed the subjective innovation rating and ignored objective innovative performance due to the lack of consistent and accurate data. In the future, researchers are encouraged to observe the effect of shared leadership on team innovation using longitudinal data over a longer time span and address objective performance outcomes. I will also consider creating a novel structured innovation rating system for my company to offer both managers and researchers a platform to track innovation change and development.

Third, although using a sample from the same organization can eliminate some potential confounding influences, thus increasing the internal validity of the results, this strategy limits the external validity and generalizability of the findings. This study addressed basic work teams in the considered organization. Therefore, the results of this study may not be easily generalized to top management teams or other companies. Future studies can

explore the effect analyzed by this study in different work settings, thus shedding light on the robustness of this study's findings. In addition, the data used for analysis were collected in mainland China, which is characterized by high power distance and collectivism (Hofstede, Hofstede, & Minkov, 2010). These features imply that people prefer to behave according to formal leaders' instructions and influences. Therefore, a cross-cultural comparison is encouraged, particularly addressing countries with low power distance and collectivism (e.g. the United States; Hofstede et al., 2010).

Fourth, the study did not find a significant moderating effect of LMX differentiation. One possible reason is that the reduced sample size. Another possible reason is that LMX differentiation is a team construct based on vertical dyadic relationships (Liden et al., 2006), which reflects vertical interpersonal relationships in teams. However, shared leadership describes horizonal task-related influences. Individuals may view these two types of relationships as separate and distinct (Carson et al., 2007).

Fifth, intelligence quotient (IQ) could be an overlooking confounding factor in the research on shared leadership and team innovation. A high IQ team is more likely to initiate effective communication and information sharing and, at the same time, generate more creative ideas and useful implementation plans. Most teams analyzed in this study are likely to composed by high IQ members, who graduated from the top 10 Chinese universities, and over half of them have a master's degree. Therefore, the variation of IQ in the organization addressed in this study may not be large. Future research is encouraged to examine the effect of IQ.

Sixth, this study considered three types of teams (the digital game team, the

educational product team, and the animation product team) . These teams have different work patterns and targeted consumers, although they all emphasize innovation. The team type could be an important moderator. However, due to the limited sample size (only eight educational product teams and eight animation producing teams), no significant moderating effect of the team type was found. Future studies are encouraged to replicate this research in different teams and organizations to also analyze the effect of the team type.

Seventh, LMX differentiation is used as a construct to capture the difference in leader-member relationships. When measuring LMX differentiation, a classical LMX scale was used, and each employee was asked to report his/her relationship with his/her leader. The standard difference of each group was calculated to capture LMX differentiation. However, this measure does not reflect any individual's perceived difference. Vidyarthi, Liden, Anand, Erdogan and Ghosh (2010) proposed LMX social comparison (LMXSC) to describe the perceived difference. The measurement of LMXSC is based on items such as "Relative to the others in my workgroup, I receive more support from my manager". It is plausible that this measure may be more direct and better to describe the intent of the study's logic and exert a significant moderating effect. The LMX differentiation is relatively objective. It is possible that a team has a high leader-member relationship difference, while the team members are never aware of this. A team member may not know whether he/she has a better or worse relationship with the team leader than other coworkers. Therefore, directly measuring the perceived difference would likely uncover the moderating effect if the LMXSC measure had been used.

Conclusion

This study examines why, how and when shared leadership facilitates team innovation. The results show that team potency mediates the effect of shared leadership on team innovation, and the innovative stage moderates the relationship between team potency and team innovation. The positive effect of team potency on team innovation is only significant in the idea implementation stage. Future studies are encouraged to examine shared leadership and innovation to uncover other mechanisms that can explain how shared leadership drives team innovation.

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Table 1. Research Design

Respondent	**Time 1**	**Time 2 (3 months later)**
Subordinate	Shared leadership LMX differentiation Information sharing Team potency Control variables (team size, task interdependence, cognitive diversity) Demographic information	-
Supervisor	Demographic information	Innovation stage Team innovation

Table 2. Discriminant Validity of Variables

Model description	χ^2	df	$\Delta\chi^2$(df)	CFI	IFI	RMSEA	SRMR
Five-factor model: SL; DLMX; IS; TP; TI	903.82	367	-	.90	.90	.07	.05
Four-factor model: SL; DLMX; IS+TP; TI	1121.03	371	217.21 (4) **	.87	.85	.08	.06
Four-factor model: SL; DLMX; IS; TP+TI	1846.46	371	942.64 (4) **	.64	.61	.14	.15
Four-factor model: SL+DLMX; IS; TP; TI	2036.08	371	1132.26 (4) **	.70	.67	.12	.18
Three-factor model: SL; DLMX; IS+TP+TI	2446.81	374	1542.99 (7) **	.63	.60	.13	.13
One-factor model: SL+DLMX+IS+TP+TI	3455.06	377	2553.26 (10) **	.45	.41	.16	.15

Note. SL = shared leadership; DLMX = leader member exchange differentiation; IS = information sharing; TP = team potency; TI = team innovation.

Table 3. Means, Standard Deviations, and Correlations among Study Variables

	M	SD	1	2	3	4	5	6	7	8	9
Time 1											
1. Team size	6.50	1.46	-								
2. Cognitive diversity	4.12	0.48	.09	(.74)							
3. Task interdependence	4.81	0.54	.01	-.06	(.72)						
4. Shared leadership	0.46	0.11	-.21	.22	.31*	(.92)					
5. Team information sharing	5.63	0.39	-.08	.35**	-.02	.29*	(.73)				
6. Team potency	5.66	0.56	.08	.52**	.03	.28*	.78**	(.92)			
7. Leader member exchange differentiation	0.72	0.26	-.02	-.13	.09	.25	-.31*	-.21	(.88)		
Time 2											
8. Innovative stage	1.83	0.38	-.09	-.01	-.14	-.05	.17	.13	-.24	-	
9. Team innovation	5.51	0.86	.12	.06	-.05	.16	.04	.18	.14	.10	(.90)

Note. N = 60 teams. Scale reliability values are in the parentheses along the diagonal.
* p < .05 (Two-tailed test); ** p < .01 (Two-tailed test).

Table 4. Results of Path Analyses for Testing Hypothesized Model and Indirect Effect

	DV							
	team information sharing		team potency		team innovation			
	B	s.e.	B	s.e.	B	s.e.	B	s.e.
Predicators								
Team size	.00	.03	.06	.05	.16	.13	.05	.09
Cognitive diversity	.13	.10	.43**	.14	-.16	.36	-.11	.28
Task interdependence	-.12	.09	-.11	.13	-.46	.48	-.13	.24
Shared leadership	.26**	.09	.29**	.12	.47†	.27	.20	.24
DLMX	-.57**	.18	-.53**	.26			.30	.52
Shared leadership×DLMX	.05	.24	.27	.33			.64	.62
Information sharing							-.48	.53
Team potency							.61*	.38
Information sharing×IS							-1.73	1.02
Team potency ×IS							-0.58	1.54

Indirect effect	Effect	s.e.	95%CI
Shared leadership→Team information sharing→Team innovation	-.10	.10	[-.36, .03]
Shared leadership→Team potency→Team innovation	.15	.08	[.03, .41]

Note. All estimates are unstandardized regression coefficients. DLMX = leader member exchange differentiation; IS = innovative stage. N = 60 teams. † $p < .10$; * $p < .05$; ** $p < .01$.

Figure 1. Proposed Theoretical Model

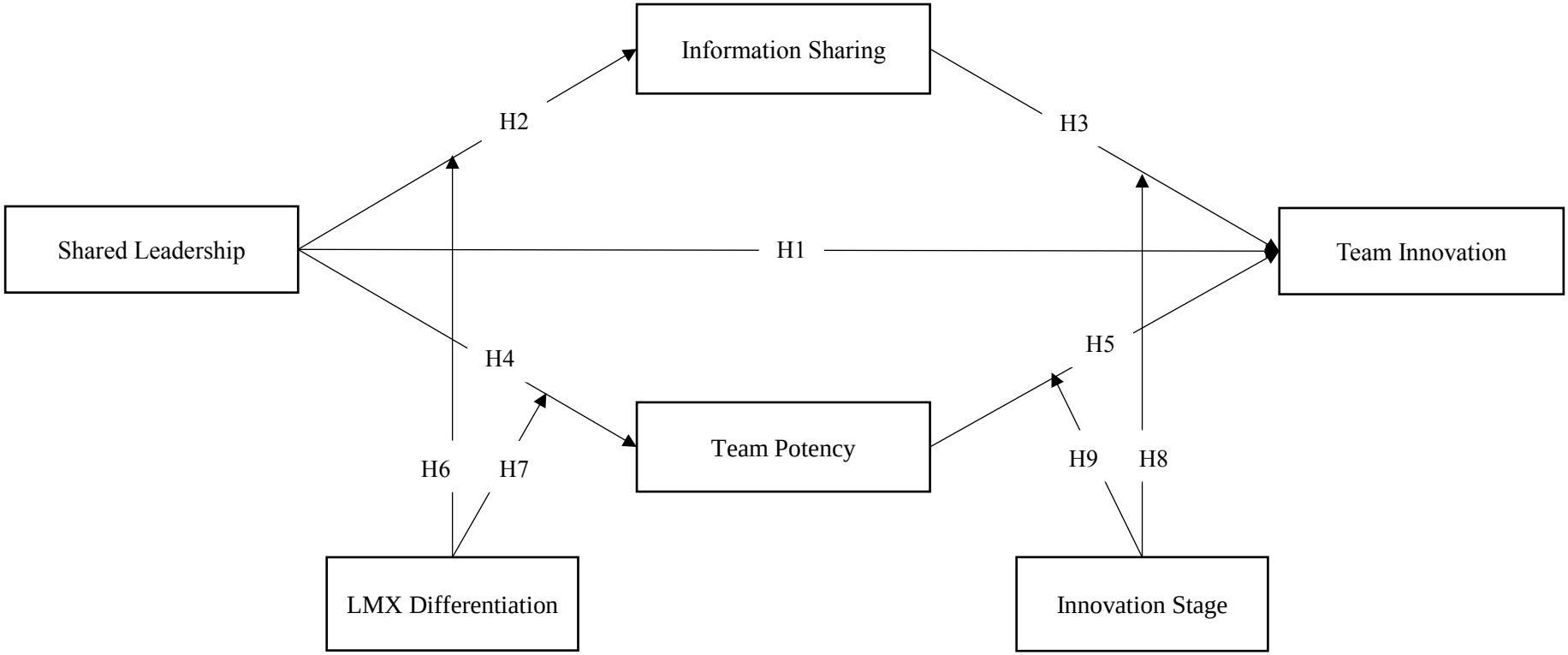
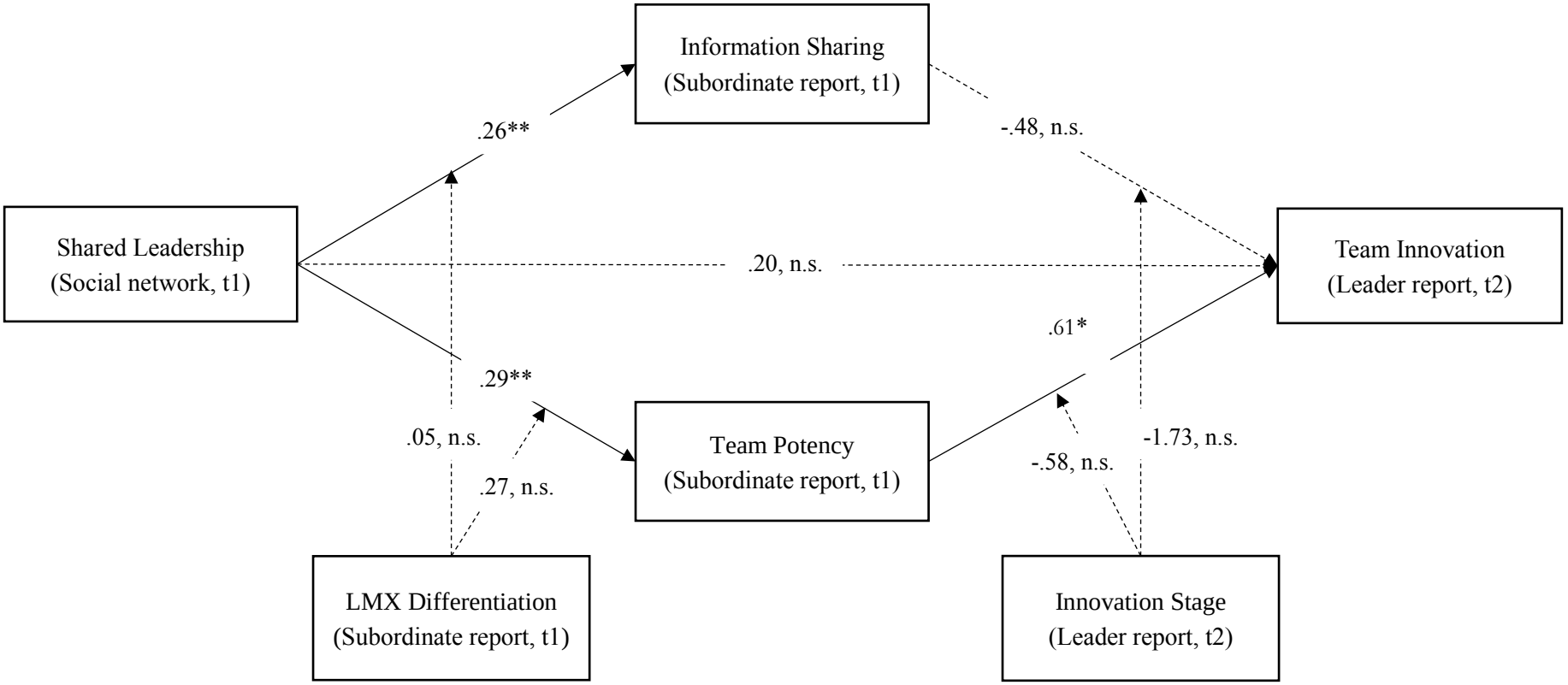


Figure 2. Results of Testing Hypothesized Model



All estimates are unstandardized regression coefficients. N= 60 teams. * $p < .05$; ** $p < .01$

APPENDICES

Survey for Team's Formal Leader (Time 1)

尊敬的先生/女士：

您好！感谢您参与完美世界集团管理学研究项目问卷调查。我们在此向您承诺：将对您提供的信息进行严格保密。该信息只用于科学研究并为集团进一步发展提供依据，不会被用于任何商业用途。您提交的问卷答案不会被您的领导（或员工）看到，只会以汇总的形式出现在报告中。

我们非常有兴趣知道您个人的工作情况以及对自身的认识。此问卷是一份基准问卷，请您根据您长期以来的工作状态进行填答。请您填写问卷时，细心阅读各项问题。答案没有对错之分，请真实表达您的感受。每题都必须填答。

例题

	以下题项是对您工作状态的描述，请根据您对自己的真实感受选择最符合您真实状态的选项。请在最能代表您意见的数字，**"1"代表非常不同意，"7"代表非常同意**打圈。	非常不同意	不同意	有点不同意	中间状态	有点同意	同意	非常同意
1	我乐于助人，不自私	1	2	3	4	(5)	6	7
2	我善于实现工作中的想法	1	2	3	(4)	5	6	7

请在表格中查询您和您团队中其他成员的研究编号

姓名	研究编号	姓名	研究编号
陈 XXX[团队领导]	1000	宋 XXX[团队成员]	1003
李 XXX[团队成员]	1001	何 XXX[团队成员]	1004
赵 XXX[团队成员]	1002		

为保证研究的匿名性，请您填答完所有问卷题项后，

用黑色笔盖去上表中您和您同事的姓名，只保留研究编号在问卷上，如：

[redacted]	1000	[redacted]	1002

谢谢您的参与及合作！

背景信息调查

Gen	您的性别是→	□男　　□女
Age	您的年龄是→	_____岁
Edu	您的学历是→	□大专及以下　□本科　□硕士　□ 士及以上
TTE	您在当前团队已经任职→	_____年_____月
Code	您的研究编号是(请查阅本问卷首页)→ _____	您的姓名是→_____

Survey for Team's Formal Leader (Time 2)

尊敬的先生/女士：

您好！感谢您参与完美世界集团管理学研究项目问卷调查。我们在此向您承诺：将对您提供的信息进行严格保密。该信息只用于科学研究并为集团进一步发展提供依据，不会被用于任何商业用途。您提交的问卷答案不会被您的领导（或员工）看到，只会以汇总的形式出现在报告中。

我们非常有兴趣知道您个人的工作情况的认识。请您根据您长期以来的工作状态进行填答。请您填写问卷时，细心阅读各项问题。答案没有对错之分，请真实表达您的感受。每题都必须填答。

例题

	以下题项是对您工作状态的描述，请根据您对自己的真实感受选择最符合您真实状态的选项。请在最能代表您意见的数字，**"1"代表非常不同意，"7"代表非常同意**打圈。	非常不同意	不同意	有点不同意	中间状态	有点同意	同意	非常同意
1	我乐于助人，不自私	1	2	3	4	(5)	6	7
2	我善于实现工作中的想法	1	2	3	(4)	5	6	7

谢谢您的参与及合作！

对您团队工作表现的整体评价

以下题项是您对**您领导下的团队的看法（将团队视为整体评价，而非针对某个员工）**，请根据您的真实感受选择最符合您真实状态的选项。请选择最能代表您意见的数字。

注意：请根据您团队的**现状**而不是期待的状况来填答下列问题。

	我所在的团队…	**非常不同意**	**不同意**	**有点不同意**	**中间状态**	**有点同意**	**同意**	**非常同意**
1	善于产生新点子 My team is good at producing new ideas.	1	2	3	4	5	6	7
2	产生的这些新点子是有用的 My team's new ideas are useful.	1	2	3	4	5	6	7
3	团队成员经常使用新点子以提高产品和服务的质量 Team members often implement new ideas to improve the quality of our products and services.	1	2	3	4	5	6	7
4	很少考虑用新的方法或流程完成工作 This team gives little consideration to new and alternative methods and procedures for doing their work. (R)	1	2	3	4	5	6	7
5	团队成员经常提供新的服务或提出新的方法或流程 Team members often produce new services, methods or procedures.	1	2	3	4	5	6	7
6	是一个创新性团队 This is an innovative team.	1	2	3	4	5	6	7

第二部分：团队创意阶段调查

管理学家和企业家曾将每个团队的创意周期划分为如下两个阶段：

创意产生（idea generation）阶段：产生新的、有用的想法、创意、工作方法或工作流程

创意实施（idea implementation）阶段：将新点子、新想法、新方法、新流程等付诸实践，转化为成果的过程。

从整体上看，您觉得您领导的团队现在处在什么阶段？

InnS	A. 创意产生阶段 B. 创意实施阶段	请在括号中填写您的答案（　　）

Survey for Team Members (Time 1)

尊敬的先生/女士：

您好！感谢您参与完美世界集团管理学研究项目问卷调查。我们在此向您承诺：将对您提供的信息进行严格保密。该信息只用于科学研究并为集团进一步发展提供依据，不会被用于任何商业用途。您提交的问卷答案不会被您的领导（或员工）看到，只会以汇总的形式出现在报告中。

我们非常有兴趣知道您个人的工作情况以及对自身的认识。此问卷是一份基准问卷，请您根据您长期以来的工作状态进行填答。请您填写问卷时，细心阅读各项问题。答案没有对错之分，请真实表达您的感受。每题都必须填答。

例题

	以下题项是对您工作状态的描述，请根据您的真实感受选择最符合您真实状态的选项。请在最能代表您意见的数字，**“1”代表非常不同意，“7”代表非常同意**打圈。	非常不同意	不同意	有点不同意	中间状态	有点同意	同意	非常同意
1	我乐于助人，不自私	1	2	3	4	(5)	6	7
2	我善于实现工作中的想法	1	2	3	(4)	5	6	7

请在表格中查询您和您团队中其他成员的研究编号

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李 XXX[团队成员]	1001	何 XXX[团队成员]	1004
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用黑色笔盖去上表中您和您同事的姓名，只保留研究编号在问卷上，如：

[redacted]	1000	[redacted]	1002

谢谢您的参与及合作！

第一部分：对团队的评定

以下题项是对**您团队**的描述，请根据您的真实感受选择最符合您真实状态的选项。请选择最能代表您意见的数字。

我所在的团队中…		**非常不同意**	**不同意**	**有点不同意**	**中间状态**	**有点同意**	**同意**	**非常同意**
IS1	团队成员之间会相互知会工作相关的事宜 Members of my team inform each other about work-related issues.	1	2	3	4	5	6	7
IS2	团队成员之间信息交换的质量很高 The quality of information exchange in our team is good.	1	2	3	4	5	6	7
IS3	我可以从我的同事那儿得到新的信息、观点或想法 I get new facts, insights, and ideas from my colleagues.	1	2	3	4	5	6	7
IS4	在工作会议上，我们告诉团队中其他人我们已经做了的事情，但不会提供新信息 During work meetings we tell each other what we know already and do not exchange new information. (R)	1	2	3	4	5	6	7
IS5	我们不会在工作会议上不断重复自己说过的话 We do not repeat ourselves during team meetings.	1	2	3	4	5	6	7
IS6	团队成员之间的交流成问题 Communicating is a problem in my team. (R)	1	2	3	4	5	6	7

团队成员在下列方面，存在多大程度的不同… The extent to which team members differ in...		**非常不同**	**相当不同**	**有点不同**	**中间状态**	**有点相同**	**相当相同**	**非常相同**
CD1	思考问题的方式 in their way of thinking	1	2	3	4	5	6	7
CD2	知识和技能 in their knowledge	1	2	3	4	5	6	7
CD3	世界观 in how they see the world	1	2	3	4	5	6	7
CD4	价值观念 in their beliefs about what is right or wrong	1	2	3	4	5	6	7

以下题项是对您同其他团队成员工作配合的情况的描述，请根据您对自己的真实感受选择最符合您真实状态的选项。请选择最能代表您意见的数字。	**非常不同意**	**不同意**	**有点不同意**	**中间状态**	**有点同意**	**同意**	**非常同意**

Inter1	没有其他团队成员的信息和材料，我无法完成自己的任务 I cannot accomplish my tasks without information or materials from other team members.	1	2	3	4	5	6	7
Inter2	其他团队成员依赖于我得到的信息或材料，以完成他们的工作任务 Other members of my team depend on me for information or materials needed to perform their tasks.	1	2	3	4	5	6	7
Inter3	在我的团队中，团队成员的工作任务是相互关联的 Within my team, jobs performed by team members are related to one another.	1	2	3	4	5	6	7

第二部分：对团队领导的评定

以下题项是对<u>您的团队领导</u>的描述，请根据您的真实感受选择最符合您真实状态的选项。请选择最能代表您意见的数字。		**非常不同意**	**不同意**	**有点不同意**	**中间状态**	**有点同意**	**同意**	**非常同意**
LMX1	一般来说，我清楚我的领导是否满意我的工作表现 I usually know how satisfied my leader is with what I do.	1	2	3	4	5	6	7
LMX2	我的领导了解我工作上的问题及需要 My leader understands my job problems and needs.	1	2	3	4	5	6	7
LMX3	我的领导非常了解我的潜力 My leader recognizes my potential.	1	2	3	4	5	6	7
LMX4	不论职权有多大，我的领导都会运用职权来帮我解决工作上的难题 Regardless of how much formal authority he/she has built into his/her position, my leader uses his/her power to help me solve problems in my work.	1	2	3	4	5	6	7
LMX5	当我真的需要时，即使会牺牲他/她的利益，我的领导也会帮助我摆脱工作上的困境 Again, regardless of the amount of formal authority my leader has, he/she would “bail me out” of a tough spot at work at his/her expense when really necessary.	1	2	3	4	5	6	7
LMX6	我很信任我的领导，即使他不在场，我仍会替他所做出的决策做辩护和解释 I have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so.	1	2	3	4	5	6	7
LMX7	你如何描述你和领导之间的工作关系？ How would you characterize your working relationship with your leader?	1	2	3	4	5	6	7

第三部分：对自己的评定

以下题项是对**您自身状态**的描述，请根据您的真实感受选择最符合您真实状态的选项。请选择最能代表您意见的数字。

	团队成员们在…方面有多自信？ How confident would members in your team feel …?	**非常不自信**	**不自信**	**有点不自信**	**不好说**	**有点自信**	**自信**	**非常自信**
TP1	我的团队对自身充满信心。 My team has confidence in itself.	1	2	3	4	5	6	7
TP2	我的团队相信自身擅长产出高质量的成果。 My team believes it could be extremely good at producing high-quality work.	1	2	3	4	5	6	7
TP3	我的团队期待成为一支高水准的团队。 My team expects to be known as a high-performing team.	1	2	3	4	5	6	7
TP4	我的团队认为自身能够解决任何问题。 My team feels it could solve any problems.	1	2	3	4	5	6	7
TP5	我的团队相信自身非常有效和高产。 My team believe it could be very productive.	1	2	3	4	5	6	7
TP6	我的团队努力工作时，能够完成许多事。 My team could get a lot done when it works hard.	1	2	3	4	5	6	7
TP7	我的团队相信没有什么问题会难倒这个团队。 My team believes that no job is too tough for this team.	1	2	3	4	5	6	7
TP8	我的团队期望在公司里产生很大影响力。 My team expects to have a lot of influence around here.	1	2	3	4	5	6	7

第四部分：社会网络调查

在团队工作中，除了由团队负责人对团队进行正式领导外，团队成员之间也会有一些非正式的领导行为（如某个团队成员指导其他员工的工作，激励团队成员完成团队目标等）。

以下题项是对您团队成员相互影响关系的描述，请针对右侧团队成员，依次回答下列问题（请跳过对自己的评价）！

注意：不同员工的表现很可能是不同的，请注意尽量准确反应不同员工在下列方面的差异。

填答方法：1= 完全没有；2=很小程度上；3=较小程度上；4=中等程度上；5=较大程度上；6=很大程度上；7=极大程度上。请直接在每个人的姓名下面写上数字。

评价对象研究编号	**1000**	**1001**	**1002**	**1003**	**1004**

	评价对象姓名 [为了保证研究的匿名性，在您评价完您的领导/同事后，请用黑色笔盖去他们的姓名；首页的姓名也请您盖去]	陈 XXX	李 XXX	赵 XXX	宋 XXX	何 XXX
SL1	你所在的**团队依赖于这名成员的领导来完成工作？** To what extent does your team rely on this team member for leadership?					
SL2	你在多大程度上得益于这名成员的领导来完成工作？ To what extent do you rely on this team member for leadership?					

第五部分：背景信息调查

Gen	您的性别是 Your gender →	□ 男 □ 女
Age	您的年龄是 Your age→	_____ 岁
Edu	您的学历是 Your educational level→	□大专及以下 □本科 □硕士 □ 士及以上
TTE	您在当前团队已经任职 Your participation in this team since →	_____年_____月
Code	您的研究编号是(请查阅本问卷首页) Your numerical no.in this research →	_____