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## Orchestrating Innovation

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# 5

## General Discussion

## Chapter 5

### General Discussion

The critical role of leadership in promoting creativity and innovation has been widely recognized (see Hughes, Lee, Tian, Newman, & Legood, 2018; Lee, Koh, & Joshi, 2018; Rosing, Frese, & Bausch, 2011; Wang, Oh, Courtright, & Colbert, 2011). Leaders guide efforts and create the necessary conditions in which employees and teams engage in creativity and innovation. However, previous research has mostly focused on traditional leadership styles (e.g. transformational leadership) which are too broad and cannot be easily distinguished from other types of leadership (Van Knippenberg & Sitkin, 2013). In addition, previous research did not clearly distinguish creativity from innovation (Hughes et al., 2018), treating them as a unitary construct or using measures that were a combination of non-specific items of creativity and innovation. As a consequence, little is known about which specific types of leadership can in fact stimulate creativity and/or innovation. The studies reported in this dissertation address these issues. Therefore, the aim of this dissertation is to provide more detail in our knowledge on how lead can affect employee creativity and innovation. We do so by focusing on more narrow leadership constructs (visionary leadership, ambidextrous leadership and LMX), and by more clearly distinguishing between employee creativity and innovation, treating them as separate but interrelated constructs. Moreover, we provided more detail by investigating potentially important mediators and moderators that could further help to understand how leadership relates to creativity and innovation, and to better understand the effectiveness of leadership.

The combined results of our studies provide evidence for the general view that leadership should be an important predictor of creativity and innovation: we indeed find that it is. More specifically, we identified a particular set of leadership constructs that stimulate creativity and innovation. Each leadership style provided additional information about leadership behaviors, underlying mechanisms and conditions on how the relationship between leadership and creativity and innovation unfolds. Below, we will first summarize the main findings of each of the empirical chapters. Further, we will discuss the implications of our findings and highlight some potentially fruitful avenues for future research. Moreover, we address the strengths and limitations of our research and also outline the practical implications of our findings.

### **Summary of the Main Findings**

**Chapter 2.** In Chapter 2, we hypothesized that visionary leadership stimulates team creativity and innovation because visionary leadership promotes goal alignment amongst team members. In an experimental study (Study 2.1), we found that teams were more creative under visionary leadership through goal alignment, but they were not more innovative. The results of a field study (Study 2.2) corroborated our initial hypothesis that visionary leadership was positively associated with team creativity and innovation through goal alignment. Moreover, our findings also showed that communication quality moderated the relationship between goal alignment and team innovation, but that it did not moderate the relationship between goal alignment and team creativity.

**Chapter 3.** In Chapter 3, we examined the relationship between leadership, creativity and innovation from another perspective. In our first study

(Study 3.1), we found that when leaders encourage their employees to explore new ways of doing things, to experiment and take risks (leader opening behaviors), employees were more creative and therefore more innovative. Moreover, we found that the relationship between creativity and innovation was strengthened when leaders asked employees to stick to proven methods and took corrective actions, sanctioned errors, set specific guidelines, and/or monitored goal achievement ways (leader closing behaviors). In an experimental study (Study 2.2), we attempted to replicate our findings, but we failed to successfully manipulate opening and closing leader behaviors. Although we therefore were unsuccessful in our attempt to replicate our findings, this chapter does suggest that the transition from creativity to innovation may benefit from different leadership behaviors.

**Chapter 4.** In Chapter 4, we tested two competing hypotheses. The first hypothesis was that LMX would have a direct effect on innovation. The second – and competing– hypothesis was that the relationship between LMX and innovation would be explained by creativity. The results of a dyadic study (Study 4.1) showed that high-quality LMX had no direct effect on employees' innovative performance. However, when employees experienced high-quality LMX they were more creative and more innovative, which lent support for our competing hypothesis. The results of a field study (Study 4.2) revealed that our composite measure of LMX was directly related to innovation, which seemingly supported our first hypothesis. However, when testing at the level of separate LMX dimensions this effect disappeared. Moreover, our results showed that only the professional respect dimension had an indirect effect on innovation through creativity. Employees

experiencing high professional respect for their leader were more creative and consequently more innovative.

### **Theoretical Implications and Directions for Future Research**

The research reported in this dissertation focused on further understanding the relationship between leadership, creativity and innovation. With this in mind, we explored the effects of visionary leadership, ambidextrous leadership and leader-member exchange (LMX) on creativity and innovation, in order to provide an answer to our research question: What are the specific leadership behaviors needed to foster creativity and innovation? Consequently, this thesis makes several contributions to the leadership, creativity, and innovation literatures. In the following section, we will highlight these theoretical implications and recommendations for future research.

**Contributions to the leadership literature.** This dissertation contributes to the leadership literature in several ways. First, we provide empirical evidence that visionary leadership has a significant impact on creativity and innovation. Apart from showing that leaders who are able to communicate a vivid picture of the future are more likely to stimulate employee creativity and innovation, our findings extend previous work by highlighting the important mediating role of goal alignment. Although we only tested goal alignment as mediator, future research has to explicate whether other constructs (e.g., different group or individual processes and behaviors) may also explain the relationship between visionary leadership, creativity and innovation. For example, one other potential mediator between visionary leadership and creativity and innovation is intrinsic motivation. Intrinsic motivation captures the extent to which an individual is willing to perform a task and

engages in it for its own sake (Deci & Ryan, 1985; Utman, 1997), and has been positively related to creativity and innovation (Amabile, 1996; Shalley & Gilson, 2004; Devloo, Anseel, De Beuckelaer & Salanova, 2015). A compelling vision of the future makes people intrinsically motivated, which in turn causes them to behave more creatively and innovatively (Taylor, Cornelius, & Colvin, 2014).

Second, we further advanced our understanding of the individual relationship of opening and closing leadership behaviors with creativity and innovation. Our results are in line with previous studies showing that the interaction between opening and closing leader behavior predicts innovation (Zacher, Robinson, & Rosing, 2016; Zacher & Rosing, 2015; Zacher & Wilden, 2014). In addition, our results confirm previous research arguing that each phase of the innovation process benefits from different leadership behaviors (Anderson & King, 1991, 1993; also see Perry-Smith & Mannucci, 2017). Indeed, creativity may benefit from opening leader behaviors, while the transition from creativity to innovation may benefit from closing leader behaviors. However, because we failed to replicate our findings in a second study, future research should attempt to replicate our findings. To this date, there is a lack of studies in which ambidextrous leadership is manipulated, therefore a promising avenue for future research is to conduct experimental studies manipulating opening and closing leadership behaviors to investigate their causal impact on creativity and innovation.

Finally, our results suggested that the quality of LMX influences innovation only through creativity. These results contribute to previous research that have not found a direct effect of LMX on innovation (e.g. Lee, 2008; Taştan & Davoudi, 2015; Clegg, Unsworth, Epitropaki, & Parker, 2002). In addition, our third chapter

contributes to LMX theory by suggesting that professional respect has an important role in explaining the effect of LMX on innovation through creativity. The results are in line with research that links professional respect to innovation (Shunlong & Weiming, 2012), and research that differentiate social from task-oriented dimensions of LMX (Zhou & Schriesheim, 2009; 2010).

**Contributions to the creativity and innovation literature.** In this dissertation we answered the call for a clear distinction between creativity and innovation measures (Hughes et al., 2018). In doing so, we contributed to previous literature showing that creativity is an important predictor of innovation (Axtell et al., 2000, 2006; Frese, Teng, & Wijnen, 1999). Chapter 3 showed that the relationship between creativity and innovation is a function of different leadership behaviors. This chapter showed not only that employee creativity is positively associated with innovation, but also that creative employees are even more innovative when leaders display closing behaviors. Chapter 4 suggested that creativity is a critical intervening variable for explaining the mechanism by which LMX affects innovation. Future research should continue to explore potential moderators to explain when and how the creativity-innovation relationship can be strengthened (or weakened). For example, a potential moderator is environmental dynamism, the rate of change and the degree of instability of the environment (Dess & Beard 1984). Organizations in a dynamic environment observe a variation in the size and number of competitors, and an increase in the rate of technological change and its diffusion throughout that industry (Simerly & Li, 2000). Environmental dynamism could affect the transition from creative ideas to implementation, because the decision process (e.g. idea selection) is more difficult when relationships are not



obvious (which also hinders successful idea promotion), and the future is unpredictable (Priem, Rasheed, & Kotulic, 1995). In other words, the complexity associated with environmental dynamism may cause confusion and uncertainty about what the course of action should be, thus hampering the transition for creativity to innovation. It is even conceivable that closing leader behaviors are even more important in a highly dynamic and volatile environment, in order to help employees or teams stay on track.

Another potential avenue for future research resides in the acknowledgement of the fact that innovation is not a linear process, but instead is more dynamically organized. For example, idea implementation is often followed by an evaluation process after which a new cycle of idea generation, idea selection, and idea implementation may develop. For instance, in highly uncertain markets, organizations rely on agile development approaches like engaging in the development of the minimum viable product (MVP). The MVP is a product with just enough features to gather feedback from the market and incorporate that feedback in further product development (Ries, 2011). Thus, the innovation process in agile development does not end with implementation, but is extended to cover changes between product versions based on feedback loops. It requires an ongoing interaction between organizations and users to drive innovation (Davern & Wilking, 2008). However, current operationalizations and studies of innovation oftentimes do not capture activities beyond idea implementation. Future research could benefit from examining the role of leadership in activities beyond implementation: What can leaders do to ensure evaluation, feedback incorporation and continued product development?

Another promising direction for future research is to examine the relationship between leadership and creativity and innovation at the network level. In this dissertation, we examined the relationship between leadership and creativity and innovation at the individual and team level. However, recently, firms and even whole industries have begun experimenting with novel business models geared at generating innovative potential. Because most contemporary firms do not possess all the necessary competences to successfully innovate independently (Landsperger & Spieth, 2011), firms turn to collaboration with other firms, universities, government agencies, or other organizations (Möller, Rajala, & Svahn, 2005) to acquire resources and skills they do not have internally (Powell, Koput, & Smith-Doerr, 1996). As a consequence, innovation activities that once were organized within a single organization are now scattered across networks of organizations, also known as innovation networks (Eschenbaecher & Graser, 2011; Dhanaraj & Parkhe, 2006; Ritala, Armila, & Blomqvist, 2009). Most of the innovation network literature has focused on the administrative or management role of a "hub firm", coining the term "network orchestration" to refer to an actor's capacity to coordinate a business network (Ritala et al., 2009; Möller et al., 2005). This literature focuses on the hub organization's role in issues like appropriability, network stability (Ritala et al. 2009; Möller et al., 2005; Dhanaraj & Parkhe, 2006), and selection, regulation, allocation and evaluation (Landsperger & Spieth, 2011; Wirtz, 2011). However, leadership and management are not the same, and accordingly the hub organization's managerial role may be different from its potential leadership role. Therefore, future research could further explore the role of the hub organization in innovation networks, and might do well to explore the

degree to which classic leadership theories and models fit onto this new configuration of innovation partners. From a more general perspective, the relationship between leadership (residing in the hub organization, or in other groups or individuals), creativity and innovation at the network level could do with more research attention.

### **Strengths and Limitations**

This dissertation reports a total of six empirical studies spread over three empirical chapters and attempted to provide more insight into the role of leadership in fostering creativity and innovation. In addition to the strengths and limitations that have been mentioned in our empirical chapters, this section highlights some general strengths and limitations.

A strength of our field studies is that they included multi-source data from a wide range of industries, which adds to their external validity. Another strength is that in each chapter we followed a multiple-study, multiple-method approach in order to address external validity and internal validity concerns. Using multiple methods, in particular combining surveys and experiments (except for Chapter 4), allowed us to balance the strengths and weaknesses of each approach. Despite these strengths, there are some potential limitations in this dissertation that need to be acknowledged.

First, a limitation of our empirical evidence is that our cross-sectional studies do not capture how leadership behaviors affect the innovation process over time. Cross-sectional studies provide a snapshot of the relationship between leadership, creativity and innovation at a given point in time. However, innovation and leadership are dynamic processes, requiring an extended period of time to

unfold. Our cross-sectional studies are not well suited to encapsulate how ideas advance and mature into concrete new procedures or products. Longitudinal designs might help to provide additional information on how the relationship between leadership, creativity and innovation unfolds overtime. Depending on the time necessary to proceed from idea generation to idea implementation and subsequent evaluation, these designs could involve collecting data over days, weeks, or even years and decades.

Second, an additional concern is the use of a student sample in our experimental designs (Chapter 2). It has been argued that because students have different skills, traits, and experience than non-students (Sears, 1986; Wells, 1993) results from these experiments may not be easily generalized to other populations and settings (Lynch, 1982; Campbell & Stanley, 1963). However, several authors assure that the use of a student sample should not be considered problematic for experimental studies that are aimed at establishing causality in relationships with high internal validity, and when there is no reason to expect students to behave differently than non-students (e.g. Brown & Lord, 1999; Rietzschel, Wisse, & Rus, 2017; Stam, Van Knippenberg, & Wisse, 2010; Dipboye, 1990; Wofford, 1999). Nevertheless, future research may replicate our experimental studies using a non-student sample.

Finally, another possible limitation of this dissertation is the operationalization of creativity and innovation. In our field studies we assessed creativity with the idea generation subscale and innovation using the idea promotion and idea realization subscales from the innovative work behavior scale by Janssen (2001). However, this scale is only one of several potential scales that

we could have used. Importantly, some have criticized the scale because it does not include dimensions like opportunity exploration, problem identification (see De Jong & Den Hartog, 2010), or coalition building (see Scott & Bruce, 1994). Moreover, the innovative work behavior scale by Janssen (2001) has most often been used as a single additive scale. Although confirmatory factor analyses and bi-factor models showed that the subscales captured different constructs and that splitting creativity and innovation into subcomponents provided a good fit to the data, future studies may apply different scales and in doing so test the robustness of our findings.

### **Practical Implications**

The findings presented in this dissertation have several implications for how leadership can contribute to creativity and innovation. These implications revolve around, respectively, visionary leadership, ambidextrous leadership, and LMX.

**Implications for visionary leadership.** First, our second chapter suggests that leaders with a compelling vision of the future can significantly increase team members' creative and innovative behavior. Organizations could, therefore, implement leadership development programs to develop leaders' visionary skills and abilities. For example, leaders could learn to create and communicate visions at all organizational levels. This could contribute to team members' goal alignment and in turn strengthen their creative and innovative performance. In addition, coupled with this recommendation, we suggest that leaders develop a follow up program with team members to monitor their goal alignment and assist them in the

implementation phase. This would contribute to preventing misunderstandings and ensure that the vision is understood and engrained in the team member's goals.

**Implications for ambidextrous leadership.** Secondly, the results of Chapter 3 highlight the importance of displaying different leadership behaviors in different phases of the innovation process. Thus, leaders who display opening and closing behaviors, and who also know *when* to display each, may be rewarded with employees who are relatively creative and innovative. Our findings suggest that organizations that invest in the development of ambidextrous leadership capabilities of their supervisors may find that their employees respond with increased creativity and innovative performance. The development of leaders' ambidextrous leadership capabilities could be done in the form of training sessions, a coaching program, and/or the inclusion of displayed opening and closing behaviors in the leaders' performance evaluation.

**Implications for LMX.** Thirdly, the findings of our fourth chapter confirmed the importance of leader-member exchange for innovation. Employees that develop high-quality relationships with their leaders are more creative and consequently more innovative. Therefore, organizations could emphasize the importance of high quality relationships and include relationship development as an key aspect of their organizational culture. Moreover, the results of this chapter seem to indicate that professional respect is one of the most relevant resources leaders have to foster creativity and innovation. Thus, we recommend that organizations implement coaching sessions to help leaders become mentors for their employees. These sessions will make the leaders' skills, knowledge and competence accessible for employees and leaders could learn how to better

support their employees. In addition, we recommend to implement a recognition program for leaders. Recognizing leaders could incentivize professional respect amongst employees because employees would become aware of their leader's achievements. The recommendations above are directed towards leaders. However, recommendations for employees and team members can be made as well. Chapter 2 suggests that team members might benefit from communication quality training to increase the likelihood of team success in creativity and innovation. This could be done via training sessions in which teams generate and implement ideas following proven communication quality methods. A complementary option to communication training could be the introduction of processes and information sharing platforms geared towards facilitating the exchange of valuable information amongst team members.

### **Conclusion**

The purpose of this dissertation was to investigate how and when leaders stimulate creativity and innovation. In three empirical chapters, our results demonstrated that leaders, by communicating a compelling vision of the future, switching between opening and closing leader behaviors, and creating meaningful relationships with their subordinates, can significantly affect creativity and innovation. As such, in the present dissertation we sought to further uncover specific facets of leadership, and provide empirical evidence for the role of leadership in fostering creativity and innovation. These findings are particularly relevant in the current dynamic and competitive environment in which the rate of change is accelerating. We hope that this thesis will inspire future research expanding the role of leadership on creativity and innovation.