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Employee incremental and radical creativity

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CHAPTER 1

GENERAL INTRODUCTION

“I have a great respect for incremental improvement, and I've done that sort of thing in my life, but I've always been attracted to the more revolutionary changes. I don't know why. Because they're harder. They're much more stressful emotionally. And you usually go through a period where everybody tells you that you've completely failed.”

— Steve Jobs

While there has been discussion on the range of creative ideas, organizational behavior research on employee creativity has predominantly treated creativity as a unitary, homogeneous construct (Shalley, Zhou, & Oldham, 2004; Unsworth, 2001). This conceptual misalignment is an important gap to fill because the ideas underlying proposals, products, and work processes could be characterized as either incremental or radical, and the two different forms of creativity have differential implications for many aspects of individual and organizational effectiveness (Baer, 2012; Janssen, Van de Vliert, & West, 2004).

To understand the value of incremental ideas, consider the example of Subaru Indiana Automotive (SIA) (Robinson & Schroeder, 2009), whose lean initiative focused on environmental sustainability in 1989, long before the popularity of environmental sustainability. Consequently, this carmaker had to explore on its own how to achieve the goal of zero landfill operation. Because front-line workers are the ones who physically handle the parts, materials, and equipments, they are well-positioned to identify green opportunities to reduce waste generation and resource consumption and to reuse and recycle materials. There has been thousands of incremental improvement ideas from front-line workers every year submitted to

SIA's employee suggestion system, which cumulatively helped the company achieve its ambitious zero landfill goal. While one single incremental idea did not seem to have a noticeable impact on SIA's environmental performance, numerous small actionable ideas, taken together, have made its environmental initiative eventually remarkable.

A noteworthy story about a highly successful consumer product that sprang from an employee's breakthrough idea is illustrated in the origin of the Band-Aid bandage (Daunton, Kothari, Smith & Steele, 2012). Earle Dickson, a cotton buyer for Johnson & Johnson, invented the first ready-made adhesive bandage by placing squares of cotton gauze at intervals on a long piece of surgical tape and covering them with crinoline fabric. He then passed the idea on to his supervisor who in turn took it all the way to company president and co-founder, James Johnson. Johnson recognized the ingenuity and brilliant simplicity in this invention and decided to produce and market it as the Band-Aid. As the brand has expanded over the years, these little bandages have long been a staple in every first-aid kit as a tool to prevent the spread of infection. One employee's revolutionary breakthrough idea gave rise to a hot seller for the company and a wide variety of incarnations that help the brand better meet the diverse needs of today's customers worldwide.

The quote and examples above reveal the distinction between incremental and radical forms of creative ideas that can be traced to employees and their respective implications for organizational innovation and competitive advantage. Given that ideas are the raw materials or ingredients for innovations in procedures, work processes, products or service lines (Kanter, 1988; West & Farr, 1989), this distinction implies different strategies that organizations may adopt to innovate. On the one hand, unwavering incremental steps that seek refinements in what is currently offered, done, or known can add up to substantially improve several important

aspects of business, such as customer service, responsiveness, quality, and cost management. On the other hand, breakthrough ideas that diverge significantly from an existing paradigm have the potential to navigate the pioneering company to a brand-new direction and yield long-lasting advantage and broader impact, like the Band-Aid example. Although different in radicalness, both incremental and radical creativity are vital strategies for organizations to thrive in dynamic environments, respond to unforeseen problems or new opportunities, and proactively develop core capabilities (Gilson, Lim, D’Innocenzo, & Moye, 2012; Gilson & Madjar, 2011).

Researchers have only recently started to identify different antecedents and psychological processes that relate to the two forms of creativity. In this dissertation, we aim to contribute to this emerging line of inquiry by examining why, when, and how certain personal and situational factors may have differential effects on employee incremental and radical creativity. This introduction is laid out as follows: first, we define creativity and distinguish incremental and radical creativity. We then provide an overview of the available yet scarce empirical research that has examined the antecedents of incremental and radical creativity. Next, we propose that empirical research could benefit from a reconceptualization of the construct of creativity by differentiating between the two dimensions of incremental and radical creativity. Based on this reconceptualization, we put forward gaps and remaining questions in the literature on creativity that we aim to address in this dissertation in order to advance our understanding of the antecedents, process mechanisms, and boundary conditions for the generation of incremental and radical ideas. We end this introduction with an overview of the three empirical chapters in this dissertation.

Incremental and radical creativity: deciphering the differences

Employee creativity is defined as the generation of novel and useful ideas concerning processes, procedures, products, or services (Amabile, 1996; Oldham & Cummings, 1996; Shalley et al., 2004). Ideas are considered *novel* if they are unique relative to other ideas currently available in the organization and considered *useful* if they can contribute value to the organization (Shalley et al., 2004). The definition of employee creativity, however, makes no assumptions about the extent to which creative ideas diverge from accepted modes of thought and established ways of doing things within an organization. In fact, there is a continuum of creativity ranging from incremental ideas marked by minor improvements or refinements on how things are currently done to radical breakthroughs marked by completely new products or processes (Amabile, 1983; Mumford & Gustafson, 1988). Recognizing these differences in radicalness of creative ideas, we adopted a more nuanced conceptualization of creativity that contrasts incremental and radical creativity. Incremental creativity can be defined as the generation of novel and useful ideas that imply only few and minor changes in frameworks of existing thoughts and practices (Gilson, et al., 2012; Gilson & Madjar, 2011; Madjar, Greenberg, & Chen, 2011), whereas radical ideas are those that deviate substantially from the status quo (Gilson, et al., 2012; Gilson & Madjar, 2011; Madjar et al., 2011).

Although both incremental and radical forms of creativity meet the criteria of novelty and usefulness, the nature of the two may differ markedly. Incremental creativity involves small scale improvements on how work is performed or what is performed (Gilson, et al., 2012; Gilson & Madjar, 2011; Madjar et al., 2011), which typically reflects continuity with existing paradigms (Audia & Goncalo, 2007). It can be as simple as adding new features to current products, services, and processes or it can be more complex, such as ideas of introducing line extensions

for products and services. New flavors of Coca-Cola and new formats of Gillette razors are great illustrations of incremental ideas because new versions of these products usually differ from the old versions at a disciplined pace in a predictable way. Radical creativity, on the other hand, meets the additional criterion of altering the very paradigm from which problems originated, which can be labeled as paradigm shift (Kirton, 1980). Radical creative ideas provide original and unusual perspectives to problems, extend beyond the status quo, and therefore open entirely new directions for subsequent creative efforts. Such ideas are likely to require greater investment of capital, time, and resources in the frontend, and may also yield high-impact benefits in the long term (Audia & Goncalo, 2007). For example, when automobile industries seek to use greener energy sources for cars, the idea of developing electricity cars that completely get rid of fossil fuels (e.g., Tesla) is representative of radical creativity because it diverges from people's conventional thoughts about the power of cars. Similarly, someone at Google must have suggested the groundbreaking idea of taking photographs of every street in the world when creating Google Streetview. Hence, incremental and radical creativity are divided into two types according to whether creative ideas seek to accommodate within or challenge existing paradigms in a task domain.

Both types of creativity have their pros and cons, and one is not inherently better than the other. By making minor adaptations or changes to existing products, services and processes, incremental creativity guarantees more certain results and therefore reduces the risk of invalidity, making it easier to get the recognition it deserves (Litchfield, Gilson, & Gilson, 2015). This kind of creativity often allows the established framework to persist and remain unquestioned over a long period of time. However, it may be difficult for organizations to further improve when their existing products or services are no longer effective (Audia & Goncalo, 2007). Radical creativity

that deviates significantly from the status quo involves greater risk, uncertainty as well as more substantial initial investment, and therefore may encounter more resistance and may be stifled for subsequent development more often (Janssen et al., 2004). However, its potential benefits can also be greater if implemented successfully: it often results in transformational outcomes that open up new sources of organizational growth (Taylor & Greve, 2006). Therefore, both incremental and radical creativity are necessary and valuable for organizations to be flexible and innovate based on their strategic goals.

Factors influencing employee incremental and radical creativity

In recent years, research efforts to empirically examine the different antecedents of incremental and radical creativity have shown that the factors influencing the two types of creativity are in fact different. The presence of creative coworkers, organizational identification, and extrinsic motivation are important variables in promoting employee incremental creativity. Employees' willingness to take risks, resources for creativity, career commitment, intrinsic motivation, and leader social network ties are more helpful for radical creativity (see Gilson & Madjar, 2011; Madjar et al., 2011; Venkataramani, Richter, & Clarke, 2014). The above brief review suggests that researchers have only identified a limited set of personal or contextual factors that have differential effects on incremental and radical creativity and that the precise mechanisms and contingencies that account for these effects are still unclear and warrant more in-depth future research. A critical factor that may serve to motivate employees to engage in a certain level of creative action is leaders and their behavior (e.g., Mainemelis, Kark, & Epitropaki, 2015; Scott & Bruce, 1994; Shalley & Gilson, 2004). As the power holders in the work environment, leaders can establish and convey role expectations for creative performance

in jobs and use leadership behaviors to support employees to try new things and come up with incremental and/or radical ideas (Zhou & George, 2003).

In this dissertation, we focus on how leaders can have either direct or indirect influences on the type of creativity exhibited by employees. First, a simple yet powerful way through which leaders can encourage their employees' engagement in creativity is by setting creative role expectations such that creativity is expected or required in order to perform the job effectively (Shalley, 2008). From the sensemaking point of view, communicating creativity as part of the in-role performance is a process of "sensegiving" in which leaders attempt to shape employees' receptivity beliefs about creativity (Ford, 1996). Second, leaders can directly orient employees to engage in creative efforts through their own behaviors. Because today's organizations increasingly adopt empowering leadership practices that delegate power, autonomy, and responsibility to employees with the intention of tapping into their creative potentials (e.g., Chen, Sharma, Edinger, Shapiro, & Farh, 2011; Harris, Li, Boswell, Zhang, & Xie, 2014; Zhang & Bartol, 2010), it is important to examine the role of empowering leadership in fostering employee incremental and radical creativity. Third, leaders can also implement one or more leadership styles to indirectly shape the social work environment that offers employees opportunities to express their creative capacities. While some initial indications hint that employees' interdependent and independent self-construals may relate to the generation of different types of creative ideas (Goncalo & Staw, 2006), there is an increasing need for a greater understanding of the socio-contextual factors that may activate the expression of self-construals to generate incremental and radical creative ideas.

Overview of the dissertation

Chapters 2, 3, and 4 of this dissertation present three field studies in which we examined the differential effects of creative role expectations, empowering leadership, and self-construals on employee incremental and radical creativity. Chapter 5 provides the general discussion. In each empirical study, we test theoretically derived hypotheses using different multi-source field data collected among employees and their direct supervisors. We have written the chapters as independent papers, and therefore each chapter can be read separately from the rest of the dissertation. Given that all chapters deal with incremental and radical creativity and use field studies to examine the proposed relationships, some overlap in the theoretical and methodological parts exists. Meanwhile, taken together these chapters also create a coherent framework in which differential effects of contextual and personal factors on incremental and radical creativity are systematically investigated.

Chapter 2: creative role expectations and employee incremental and radical creativity

Creative role expectations can be defined as the extent to which employees perceive that creativity is an integral part of their work roles and that they are expected to engage in creative actions when needed (Shalley, 2008; Unsworth, Wall, & Carter, 2005; Yuan & Woodman, 2010). Creativity as in-role behavior has recently received some research attention in creativity and innovation literature (Gilson & Shalley, 2004; Tierney & Farmer, 2004, 2011; Shin, Yuan, & Zhou, 2017; Unsworth & Clegg, 2010; Unsworth et al., 2005; Yuan & Woodman, 2010). In a study of health service employees, Unsworth et al. (2005) argued and found creative job requirements to be a proximal determinant of expected creative performance that could account for the effects of other work factors on employee self-reported creativity, such as empowerment, leader support, and time demands. Also, Yuan and Woodman (2010) identified perceived

innovation job requirements as a key external factor that can activate employees to engage in innovative behavior and found that expected positive performance outcomes, expected image risks and expected image gains could clarify the relationship between role expectations for innovation and actual engagement in innovative actions. With a sample of 311 employee–supervisor dyads from two Chinese organizations, Shin and colleagues (2017) found that when employees were given a reason to be innovative through job requirements, those with low intrinsic interest in innovation indeed displayed more innovative behavior when they interpreted this requirement as important, either because fulfilling such requirements would yield personal success or because they endorsed the inherent contribution of the required innovative behavior to their organizations. However, these empirical studies have not incorporated the differentiation between incremental and radical creativity. Moreover, although role expectations for creativity are supposed to have personal meaning and significance to role occupants (i.e., employees), prior research has mainly used an instrumentality-based perspective to account for in-role creative performance (Yuan & Woodman, 2010). Little attention has been paid to the sensemaking processes in which employees derive a sense of personal meaning and significance of being assigned to jobs with high creativity expectations (Drazin, Glynn, & Kazanjian, 1999; Ford, 1996). Finally, theoretical work from the creativity literature (Montag, Maertz, & Baer, 2012; Unsworth, 2001) has suggested that personal characteristics, such as personalities and cognitive styles, may operate as boundary conditions that may regulate the extent to which employees actually exhibit creative behaviors in the face of role-based expectations for creativity. Therefore, additional research is needed to empirically examine why, when, and how creative role expectations result in employee incremental and radical creativity.

In Chapter 2, we argue and show that creative role expectations externally imposed by the organization trigger a sensemaking process through which employees internalize creativity as a standard for the self (i.e. creative self-expectations). Furthermore, we identify perceived necessity for performance improvement as a contingent condition which facilitates the internalization of role expectations for creativity. Our results suggest that employees are more likely to grasp the rationale behind role expectations for creativity when they perceive that the current performance condition of their work unit or organization needs to be improved. Finally, we provide empirical evidence for differential nurturing conditions needed for incremental and radical creativity and particularly highlight the higher cognitive threshold for developing radical breakthrough ideas. Specifically, our findings show that self-expectations for creativity can directly elicit incremental creativity, but that a creative cognitive style is crucially necessary for turning such self-expectations into radical creativity. As such, we advance a better understanding of how employees make sense of creative role expectations and enact creative actions within the context of in-role performance. Consider the fact that organizations are increasingly expecting employees to show creative behavior when performing their work tasks, these results bear important implications for managers and practitioners.

Chapter 3: empowering leadership and employee incremental and radical creativity

Empowering leadership is a type of leadership that focuses on power sharing and providing autonomy to employees with the intention of activating motivational responses (Conger & Kanungo, 1988; Srivastava, Bartol, & Locke, 2006; Thomas & Velthouse, 1990), which may serve as a driver of increased engagement in creative activities (Amabile, 1983). Empowering leadership embodies a set of leader behavior: enhancing the meaningfulness of work, providing autonomy and participation in decision making, and expressing confidence in

employees' capabilities (Ahearne, Mathieu, & Rapp, 2005; Chen et al., 2011; Zhang & Bartol, 2010). Previous research has provided some empirical evidence that empowering leadership is effective in promoting employee creativity and has capitalized on an intrinsic motivational perspective to clarify why empowering leadership affects creative behavior among employees. For example, Zhang and Bartol (2010) has shown that empowering leadership enables employees to be psychologically empowered, intrinsically motivated, and engaged in creative processes, leading them to exhibit more creative performance outcomes. Consistent with this perspective, Harris and colleagues (2014) generalize the positive relationship between empowering leadership, creative process engagement, and creativity to the newcomer socialization context. Similarly, Zhang and Zhou (2014) have demonstrated that empowering leadership has the strongest positive relationship with creativity when employees have high levels of uncertainty avoidance and trust their supervisors and that creative self-efficacy mediates the effect that this three-way interaction between empowering leadership, uncertainty avoidance, and trust has on creativity. Using cross-cultural laboratory and field studies, Chen and colleagues (2011) revealed that team-level empowering leadership influences team members' motivational states of psychological empowerment and affective commitment, which in turn increase innovative behavior.

However, while this research significantly contributes to our understanding of the role of empowering leadership in employee creativity, the predominant focus on intrinsic motivation as the process mechanism implies that too little attention has yet been given to alternative mechanisms in the empowering leadership-employee creativity relationship. Notably, empowering leadership intends to transfer and delegate power to their subordinates (e.g., Houghton & Yoho, 2005; Manz & Sims, 2001; Schriesheim, Neider, & Scandura, 1998) and this transformation of the leader-

subordinate power relation is crucial in unleashing the creative capacities of subordinates. Moreover, there is evidence suggesting that incremental and radical creativity may evolve through different process mechanisms (Audia & Goncalo, 2007; Dane, 2010; Gilson & Madjar, 2011), which underscores the need to distinguish incremental and radical creativity in empirical studies. Therefore, we set out to fill these important yet unaddressed gaps by probing mediating mechanisms and boundary conditions in the relationship between empowering leadership and employee incremental and radical creativity.

In Chapter 3 of this dissertation, we first integrate insights from theory and research on empowering leadership, social power, and creativity to identify follower sense of expertise power as the specific power base that empowering leadership actually transfers to followers. By differentiating between incremental and radical creativity, we further examine the different paths from empowering leadership to two distinct forms of creativity. Specifically, we theoretically propose and empirically demonstrate that empowering leadership leads to incremental creativity because of enhanced levels of follower expertise power. Meanwhile, the emergence of radical creativity requires creative self-efficacy such that empowering leadership leads to radical creativity through follower expertise power and creative self-efficacy. Moreover, we advance understanding of how individual differences in power distance values affect follower responses to leader empowering behaviors by identifying follower power distance orientation as a boundary condition to moderate the indirect relationship between empowering leadership and follower incremental and radical creativity. Thus, we highlight that empowering leadership can potentially nurture both incremental and radical creativity within an individual's work but through different generation processes. Our results are relevant and applicable in practice, given

that more and more companies would like to boost creativity through rolling out empowerment programs.

Chapter 4: interdependent and independent self-construals and employee incremental and radical creativity

Self-construal is a key psychological construct that concerns the ways individuals represent and make sense of themselves in relation to others (Markus & Kitayama, 1991). Markus and Kitayama (1991) proposed that self-construal can be distinguished into interdependent and independent self-construal. Interdependent self-construal places an emphasis on connectedness and harmony in social relationships, whereas independent self-construal focuses on individual separateness and uniqueness (Singelis, 1994). Although research on the relationship between self-construal and creativity is still in its nascent stage, the available empirical evidence of this relationship suggests that interdependent and independent self-construals may have differential relationships with creativity. On the one hand, an independent self-construal has been consistently shown to be positively related to idea originality and divergent thinking (e.g., Goncalo & Staw, 2006; Kim, Vincent, & Goncalo, 2013; Ng, 2003; Rios, Markman, Schroeder, & Dyczewski, 2014; Wiekens & Stapel, 2008). The relationship between interdependent self-construal and creativity, on the other hand, has been mixed and inconclusive. Some studies found the relationship to be negative (e.g., Ng, 2003; Wiekens & Stapel, 2008) or nonsignificant (e.g., Bechtoldt, Choi, & Nijstad, 2012). Other studies found this relationship to be more complex such that an interdependent self-construal can be conducive to creativity under certain boundary conditions (Jin, Wang, & Dong, 2016; Wang & Wang, 2016). While these studies seem to suggest that self-construals may influence differences in the level of creativity of the outcomes, they have not directly address the proximal source of these

differences and how these differences are to be explained. We aim to address this gap by investigating why and when certain self-construals affect different forms of creativity, specifically incremental and radical creativity.

In chapter 4 of this dissertation, we identify that interdependent and independent employees differ in the type of leader support they need in their creative endeavors. Employees with interdependent self-construals seek direct help and prefer to rely on their leader's guidance and assistance when they must address problems in creative ways, whereas employees with independent self-construals prefer more indirect leader support that only facilitates them in their independent, self-reliant creative efforts. Specifically, building on self-construal theory and trait activation theory, we theoretically propose and empirically show that employees with an interdependent self-construal prefer a leader-assisted creativity strategy leading them to generate incremental creative ideas, especially when they establish a high-quality exchange relationship with their leader. In contrast, employees with an independent self-construal prefer a self-driven creativity strategy leading them to generate radical creative ideas, especially when they have an empowering leader. Our findings regarding employee characteristics and their connection with different creative strategies yielding incremental and radical creativity have extensive implications for human resource management practices, such as employee selection, task assignment, and implementation of appropriate supervisory support.

Chapter 5: general discussion

Finally, we summarize and review the main findings of the three empirical chapters in Chapter 5. We will highlight theoretical implications of our findings to creativity literature and offer managers practical suggestions they can use to tap into creative potentials among their

employees. We will also reflect on the limitations of our research and give clear avenues for future research endeavors. We will end the dissertation with a few concluding remarks.

