Exploring individual-work context fit in affecting employee creativity in technology-based companies

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The increasing competition in knowledge-intensive economy has made it even more important for technological companies to understand what determines employee creativity since it is a major source for corporate innovation. Research has indicated that individual attribute substantially determines employee creativity, but only few empirical studies have incorporated the influence of contextual factors by taking an interactionist perspective. To extend the current understanding of creativity in technological companies, this study examines the relationship between individual dispositions (innovative cognitive style and proactive personality) and employee creativity, and the moderating role of two critical working conditions (work discretion and time pressure). Hierarchical regression analysis was used to test the proposed hypotheses for a sample of 344 middle-level managers in Taiwanese manufacturing companies, including R&D managers and marketing managers. Middle managers were chosen as representative sample of company employees because their tasks in both departments of a large manufacturing company are relatively creativity-intensive in nature, compared to ordinary employees or managers in other logistics-oriented divisions. Results reveal that work discretion strengthens the effect of proactive personality on creativity whereas time pressure weakens the effect of innovative cognitive style on creativity. This paper contributes to the literature by disentangling the extant gaps among creativity theories and emphasizing the importance of individual-context fit to creativity in work settings.

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1. Introduction

The rapid changes in technology, social context and personnel cognition have challenged conventional design of optimal working conditions in technological organization (Martín-de Castro et al., 2013; Shirahada and Hamazaki, 2013). As an antecedent of employees’ innovative potential in knowledge-intensive professions (Brennan and Dooley, 2005; Udwadia, 1990), creativity is defined as the production of new and useful ideas concerning products, services, processes, procedures, and solutions to business problems (Amabile, 1996; Oldham and Cummings, 1996; Zhou and Shalley, 2003). Although there has been much effort in the technology management literature to investigate the antecedents of employee creativity (Brennan and Dooley, 2005; Lowe and Taylor, 1986; Shirahada and Hamazaki, 2013), the relationship between individual attributes, working conditions, and employee creativity has yet to be fully understood. Integrating both individual and contextual factors from the interactionist perspective of creativity (Woodman et al., 1993), this paper aims to explore how the individual-context fit determines employee creativity. In doing so, the present study examines the effects of innovative cognitive style and proactive personality on employee creativity and how the relationship

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is moderated by contextual working conditions of work discretion and time pressure.

The existing research has suggested that creativity is under the influence of individual characteristics, including cognitive style and proactive personality (Zhou and Shalley, 2003). Both cognitive style and proactive personality may affect individuals' creativity by influencing the extent to which they apply various intellectual activities that may facilitate creative idea production (Shalley et al., 2004). As an emerging body of technology management research and with increasing importance, cognitive psychology has recently been applied to address how human mindset relates to many managerial phenomena in various contexts of technological industries (Scheiner et al., in press; Shirahada and Hamazaki, 2013). In his seminal work, Kirton (1976) proposed the adaptive–innovative cognitive style, which divided individual cognition into adaptiveness and innovativeness. Specifically, the adaptive orientation makes individual behave in conformance with existing patterns of acting, but it also leads people to overlook the importance of creating new value and identifying opportunities through breaking existing paradigms and doing things differently (Kirton, 1976). In contrast, the innovative cognitive style activates the individual tendency to break existing paradigms through divergent thinking, which was suggested as an indicator of the potential for creative problem solving (Kirton, 1994). Since innovative change by nature involves increased risk, uncertainty, and imprecision, an innovative employee is less conforming to rules, social norms, and accepted work patterns, thus having better chances to identify more creative ideas (Kirton, 1976).

In addition to innovative cognitive style, proactive personality has been argued as another critical personal trait affecting individual creativity (Gong et al., 2012). Proactive personality has been considered to be a behavioral disposition that guides an individual, through a forward-looking perspective, to seek and create new opportunities not relating to present lines of thought in order to act ahead of competitors and shape the environment (Bateman and Crant, 1993). The innovative cognitive style displays a person's individual ways of thinking about and dealing with original ideas, while the proactive personality conceptualizes an individual's actual strategic behaviors toward exploring novelty. Therefore, when studying creativity in organization, the proactive personality should be regarded as a complementary factor to the cognitive style from the viewpoint of behavioral disposition. Further, since most empirical studies on employee creativity have been conducted in Western contexts, there is a significant research gap which leads to repeated calls for greater scholarly attention on theorizing creativity in other cultural contexts (Anderson et al., 2014; Shin and Zhou, 2003). Therefore, the first aim of this study is to replicate previous findings, extending the current evidence by examining this relationship in order to ascertain that the effects of innovative cognitive style and proactive personality are also effective in determining creativity in an East-Asian context.

The effects of environmental factors on employee creativity and innovative behavior have drawn considerable attention in the literature (Amabile et al., 1996; Martín-de Castro et al., 2013; Shalley et al., 2004). Creativity, per se, is an interactive process with which individuals interact with and are affected by the working conditions (Isaksen and Ekvall, 2010). Recently, research has suggested that human resource management process influences employee creativity through shaping working conditions (Beugelsdijk, 2008; Ehnrooth and Björkman, 2012). To enrich the existing knowledge about how to establish a more constructive working environment which facilitates employee creativity, two contextual factors, i.e. work discretion and time pressure, are investigated in this study. Work discretion, despite the common assumption that it encourages employees' motivation and cognitive flexibility which are necessary for higher creativity (Caza, 2012; Deci and Ryan, 1980; Oldham and Cummings, 1996), has been found to not or weakly link to creativity (Amabile et al., 1996; Shalley, 1991). Similarly, time pressure was shown to enhance employee creativity in a study based on activation theory (Baer and Oldham, 2006), while other research driven by cognitive evaluation theory conversely evidenced that it weakens or not relates to individual creativity (Amabile et al., 2002; Andrews and Smith, 1996). The apparent inconsistency in the effects of contextual factors on employee creativity implies a critical research gap. Through reviewing the relevant body of creativity research, we postulate that the inconclusive evidence may result from researchers' ignorance of the individual-context fit for predicting creativity in work settings.

Indeed, most creativity scholars acknowledge the necessity of scrutinizing the interactive effects of individual differences and contextual working conditions (Oldham and Cummings, 1996; Zhou and Shalley, 2003). Given that the variety of psychological disposition leads to individuals' distinct way of perceiving and responding to different work contexts (Amabile et al., 1996; Anderson et al., 2014), the literature has suggested investigating the interactions among personal and contextual characteristics in creativity research may represent a fruitful direction for addressing some paradoxical phenomena (Anderson et al., 2014; Shalley et al., 2004; Woodman et al., 1993). For example, an employee with innate creative potential may still fail to behave creatively without appropriate job design, such as sufficient working time and decision latitude for an assigned task.

In this study we draw upon prior theories and empirical research into the nature of innovative cognitive style and proactive personality to provide a rationale and justification for investigating two related research questions. These are: (1) what are the effects of innovative cognitive style and proactive personality on employee creativity; and (2) what is the role of “contextual fit” in explaining the relationship to creativity, that is, the extent to which the relationship of innovative cognitive style and proactive personality to creativity is contingent on the specific working conditions under which these processes occur. This study makes a contribution through incorporating proactive personality as a complementary individual trait to innovative cognitive style, and this inclusion can help fully capture the impact of employees' dispositional attributes on their creativity. Furthermore, through examining the interaction between individual disposition (innovative cognitive style and proactive personality) and contextual factors (work discretion and time pressure), this paper also sheds light on how to adapt job design to create appropriate individual-working conditions fit for better employee creativity in technological and other knowledge-based industries.
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