



Creativity in innovative projects: How teamwork matters

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Abstract

This article investigates the influence of the quality of teamwork on the performance effects of domain-relevant skills and creative-thinking skills in innovation teams. We propose that the quality of teamwork is an important moderating condition facilitating the application of domain-relevant skills, while obstructing the application of creative-thinking skills. Using data from 575 members, leaders, and managers of 145 software development teams, we test direct and moderated relationships between teams' domain-relevant skills and creative-thinking skills with team effectiveness and efficiency. Results show that neither domain-relevant skills nor creative-thinking skills have direct effects on team effectiveness (i.e., quality of the software product) and team efficiency (i.e., adherence to schedule and budget objectives). However, the results show that teamwork quality has positive effects on the relationship between domain-relevant skills and team efficiency, while having negative effects on the relationship between creative-thinking skills and both team efficiency and effectiveness. Theoretical and practical implications are discussed.

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1. Introduction

For innovating organizations, such as research and development (R&D) organizations, the creativity of the workforce is seen as a particularly crucial determinant of effectiveness as they depend on the ingenuity of their employees to take technologies to the next level and to conceive

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products that are radically different and valuable to create competitive advantage (Van de Ven, 1986; Hurley, 1995; Amabile, 1996; Oldham and Cummings, 1996; Madhavan and Grover, 1998; Lovelace et al., 2001). One way in which organizations are combining the creativity of their employees while ensuring operational efficiency is through teams (Cohen, 1994; Kichuk and Wiesner, 1997; Hoegl and Gemuenden, 2001). In such teams, individuals interact directly to integrate their diverse knowledge and skills (Mohrman et al., 1995; Taggar, 2002; Tesluk et al., 1997).

However, despite the importance of teams to innovative tasks and the increased attention devoted to understanding creativity (Woodman et al., 1993; Amabile, 1996; Ford, 1996; Taggar, 2002), there is still a relative dearth of studies investigating team-level factors influencing the application of the creative potential in teams and its effects on performance dimensions of innovative projects such as product quality as well as development budget and time (Leenders et al., 2003). Past research shows that there has been strong interest in individual-level creativity (MacKinnon, 1965; Madjar et al., 2002).

However, a number of scholars have expanded the scope of theorizing beyond the individual to comprise multiple levels (e.g., Amabile, 1996; Ford, 1996; Drazin et al., 1999), including team-level creativity (Taggar, 2002) and organization-level creativity (Woodman et al., 1993). Furthermore, most of the research on group creativity has primarily involved comparisons between groups and ‘nongroups’ (Paulus, 2000) investigated in laboratory studies. While such prior contributions recognize the potential influence of team processes, there is a lack of studies that provide conceptual explanations and empirical validation of how team processes affect the application of individuals’ creative potential on projects that generally require creativity (e.g., innovative projects such as software development).

Focusing on the team level of analysis, we investigate how team collaborative processes influence the relationship of creativity-relevant skills with team performance. Following Amabile’s (1996) conceptualization, we distinguish between *domain-relevant skills* – abilities regarding a specific content domain, and *creative-thinking skills* – divergent thinking and association abilities. We propose that team collaboration, i.e., the interactive work mode of teams also referred to as teamwork (Hoegl and Gemuenden, 2001), has different effects in that high levels of team collaboration facilitate the application of domain-relevant skills while impeding the application of creative-thinking skills.

The main thrust of our argument regarding domain-relevant skills is that teams need to have high levels of collaboration to synergistically combine their diverse skills on the common team task (Okhuysen and Eisenhardt, 2002; Thompson, 2003) in order to successfully cope with the complex, novel, uncertain, and dynamic nature of innovative projects (Gladstein, 1984; Stewart and Barrick, 2000). In contrast, we propose that collaborative processes reduce the performance effect of teams’ creative-thinking skills. This argument is based chiefly on the grounds that creativity as a process (Drazin et al., 1999) involves divergent thinking (Amabile, 1996; Paulus, 2000; Thompson, 2003), or the generation of a wide variety of ideas or responses to a particular problem. The collaboration within teams, however, is likely to result in strong convergent forces, limiting the application of creative-thinking skills and their influence on team performance in innovative projects.

Given the above-described state of the literature, this study addresses a significant gap. Past research has generated understanding of the processes behind how multiple levels can contribute to ‘creativity’. In such studies, creativity has been typically conceptualized as an outcome, such as the novelty or inventiveness of a problem solution achieved, often referred to as the ‘creative product’ (Woodman et al., 1993; Ford, 1996; Drazin et al., 1999; Taggar, 2002). However, little is

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