

Exploring Environmental Factors in Virtual Teams

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INTRODUCTION

In today's competitive business world, global competition forces companies to continually seek ways of improving their products/services. The hypercompetitive business environment has been the catalysts for new organizational forms—the virtual organization and its smaller version the virtual team (Jarvenpaa & Ives, 1994). The advent of new communication technologies has given organizations an opportunity to bring together their distributed workforce. The creation of distributed teams makes possible the incorporation of a wide range of both individual knowledge and expertise into a collective body of knowledge needed to conduct effective group problem-solving activities.

Without question, the skill most needed for effective problem-solving lies in creativity. It is time to analyze how to achieve high levels of creative performance. Only a few researchers have focused on how a virtual team can use creativity to perform better or how to build a creative virtual environment. And, although in a recent survey, “80 per cent of managers rated creativity as one of the most important elements in corporate success, yet less than 5 per cent of organisations actually put this emphasis into practice” (Walton, 2003, p. 143). With greater emphasis being placed on creative thinking, processes, and work team environments, team creative performance will increase day by day, allowing their organizations to succeed and to become more innovative and flexible.

The purpose of this chapter is to address the following fuzzy research questions: What are the factors that have a big impact on virtual team creative performance? How does organizational virtual team environment affect creativity? In answering these questions, we review current theories related to creativity in both face-to-face and virtual teams and the implications of recent research on how creative performance might be affected by organizational factors.

BACKGROUND

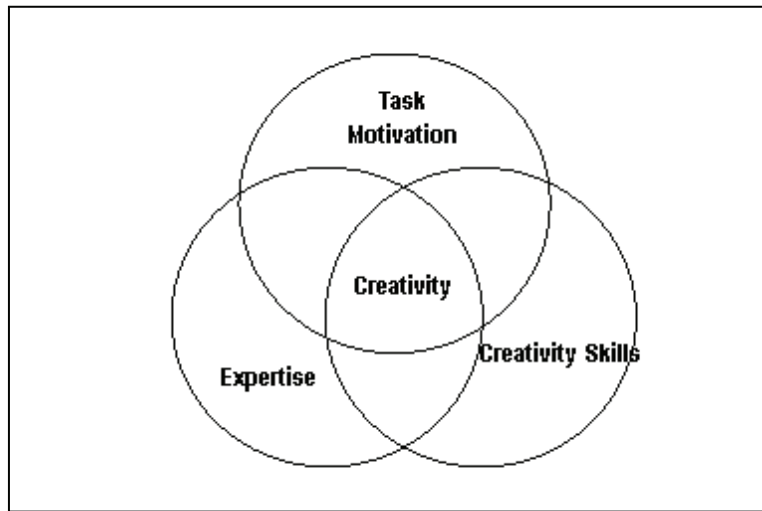
Most researchers and practitioners believe that the key to organizational success lies in developing intellectual capital and acquiring a new set of thinking: the creativity to produce an idea and the innovation to translate the idea into a novel result (Roffe, 1999). Explaining the meaning of creativity is not straightforward; there are thousands of definitions of the term. So, for the purpose of this chapter we will understand creativity as the shortest way to search for unconventional wisdom and to produce paradigm-breaking ideas. This unconventional wisdom through the generation and use of creative knowledge is the key to build sustainable competitive advantages (Carr, 1994).

A large body of literature has focused on determining personal characteristics and attributes associated with creative achievement. Several studies have demonstrated that a stable set of core personal characteristics, including broad interests, attraction to complexity, intuition, aesthetic sensitivity, toleration of ambiguity, and self confidence, relate positively to measures of creative performance (Barron & Harrington, 1981).

Contrary to the conventional belief that creativity wholly depends on one's personality, the componential theory of individual creativity (Amabile, 1983, 1988, 1997) posits that a person's social environment can have a significant effect on that person's level of intrinsic motivation; which in turn, have a significant effect on that person's creativity. Amabile, Conti, Coon, Lazenby, and Herron (1996) cite the three main origins of an individual's creative performance as: task motivation, domain-relevant skills, and creativity-relevant skills.

In organizations, it is also important to consider team creativity (West, 2001). It is generally studied as a function of the creative behavior of the individual, of group composition, group characteristics such as size, group processes such as approaches to problem-solving, participation in decision-making (De Dreu & West, 2001) and contextual variables such as climate (Anderson & West, 1998; Amabile et al., 1996).

Figure 1. Three-component model of creativity (Adapted from Amabile, 1997)



Creating a team does not automatically yield creative results. Creativity results from interaction and collaboration with other individuals (Csikszentmihalyi, 1996). Creative activity grows out of the relationship between individuals and their work, as well as from the interactions between individuals. Various challenges can prevent a team from producing a creative solution. These impediments relate mainly to the process used to solve the problem and the environment in which the team works (Puccio, 1994, p. 643).

Current research suggests that creative activity can be supported or constrained by characteristics of the work environment. People are more creative when they have “creativity-relevant personal characteristics, worked on complex, challenging jobs, and were supervised in a supportive, noncontrolling fashion” (Oldham & Cummings, 1996, p. 626). Work team environment is considered to exert a powerful impact on creativity by influencing employee’s intrinsic motivation, and management practices indicate that performance can be fostered allowing freedom and autonomy in conducting one’s work; matching individuals to work assignments, and building effective work teams that represent a diversity of skills and are made up of individuals who trust and communicate well with each other, challenge each other’s ideas, are mutually supportive, and are committed to the work they are doing (Amabile & Grysiewicz, 1987). Characteristics shown to positively impact team creativity are summarized in Table 1.

These previous studies have not addressed specifically dimensions that may be necessary when groups no longer interact in traditional structures. A creativity-based management aimed at fostering virtual team creativity must manage similar environmental variables in order to enhance employees’ internal drive to perceive every project as a new creative challenge. Nemiro (2001) identifies several key elements that influence creativity in virtual teams and therefore that result in effectiveness and high levels of performance. In a virtual team, creativity is highest “where the design is appropriate, the climate is supportive of creativity, the resources are sufficient, the proper norms and protocols are agreed on and adhered to, and the team takes the time to assess and to learn from its assessments” (Nemiro, 2004, p. 28). Table 2 summarizes some of these factors as described by Nemiro (2001, p. 94).

In today’s business world, information technologies can enhance team creative performance exploiting the power of collective minds through new media. Kratzer, Leenders, and Van Engelen (2006) explore how the creative performance of virtual R&D teams is affected by their virtual nature. They conclude that “virtuality of R&D teams is neither generally positive nor negative for their creative performance: the creative outcome is a function of how virtuality is managed over time” (p. 48). The proximity of team members, the communication modality, and team task coordination are three factors that not only define virtuality but also affect the creative performance in R&D teams. Significant

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