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Perceived proximity and trust network on creative performance in virtual collaboration environment

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Abstract

Because of intense competition, organizations are devoting more effort to improving employees' creative performance. Using virtual teams of employees who collaborate and communicate through information and communication technologies, it is possible to creatively solve organizational problems through a flexible use of scattered knowledge resources in organizations. The purpose of this study was to investigate the effects of two kinds of trust networks (i.e., cognitive-based and affective-based trust networks) on employee creative performance during virtual collaboration. In addition, the author examined the impact of perceived proximity (i.e., a cognitive and affective sense of relational closeness) on the relationship between the trust networks and creative performance. This study provides academic and practical implications for establishing competitive strategies and utilizing virtual teams.

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1. Introduction

With the advent of information technology, virtual collaborations became ubiquitous and unavoidable for organizations and are now regarded as a crucial way of gaining competitive advantage in rapidly changing environments. Competitive pressures require firms to both explore new knowledge and exploit knowledge that they already have [1, 2] to enhance organizational creativity. To fully achieve potential creativity using organizational resources at both the individual and organizational levels, many practitioners and researchers have focused on the potential of information and communication technologies (ICT) to cope with space and time constraints that limit face-to-face meetings [3, 4].

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Here, virtual teams (VTs) refers to work groups whose members are geographically dispersed and work remotely [5, 6], communicating exclusively through an internet-based information technology platform for virtual collaboration. VTs have become common units in business organizations and have received considerable attention from social and organizational psychologists [7]. Studies have reported that VTs may increase productivity [8, 9] and have attempted to investigate factors affecting VT performance. In virtual collaboration environments, team members are geographically dispersed, usually lack a shared social context and a shared history, and interact through solely through ICT [10]. Therefore, fostering good teamwork, reducing uncertainty, and building successful relationships are particularly essential for successful collaboration in VTs. According to past studies, trust is traditionally regarded as an important factor for developing relationships and ensuring the effectiveness of group work [11, 12]. In addition, researchers have generally agreed that it is critical for geographically distributed teams to effectively communicate and interact with colleagues via electronic media because of the lack of traditional social control [13] and face-to-face interactions [14].

Past studies demonstrate that proximity has a positive association with communication and interactions among individuals [15–17]. For instance, Hoegl and Proserpio [15] suggested that team members' proximity is significantly associated with teamwork quality. Proximity refers to "the physical distance between people measured in units such as inches, meters, or miles" [18, p. 76] and conventional wisdom is that people feel closest to others who are in close physical proximity to them [18, 19]. Although proximity is an essential factor for team performance, team members tend to feel distant during virtual collaboration because they are geographically dispersed. However, recent research explained the paradoxical phenomenon, in which someone feels close to geographically distant team members, by proposing a model of perceived proximity [19] and emphasized psychological or perceived proximity as an important factor for VTs' performance [20–22].

Building trust and managing perceived proximity in VTs is particularly critical because team members interact in dispersed and computer-mediated communication environment where they have limited face-to-face contact and lack initial information for the other members of the team. Considering the impact of such interaction is essential as well as taking into account creativity as a social process resulting from individuals' interactions [23, 24]. Thus, this study examines, from a perspective of social processes based on a structural approach [25, 26], the relationships among antecedents of VT performance. The structural approach focuses "on relations rather than attributes, on structure rather than [an] isolated individual actor" [27, p. 280]. In this way, the effects of team members' trust-related positions in a network structure on creativity can be analyzed, considering perceived proximity from the perspective of social networks.

2. Literature Review

2.1. Perceived Proximity

Perceived proximity refers to "a dyadic and asymmetric construct which reflects one person's perception of how close or how far another person is" [19, p. 983] or "a cognitive and affective sense of relational closeness" [22, p. 1219]. Perceived proximity is regarded as an essential concept for understanding collaborative but geographically distributed work and has been given considerable attention in recent literature on team work [15, 19–22, 28]. The results obtained by O'Leary and Wilson [22] suggested that physical proximity (i.e., geographic closeness measured in miles or kilometers) does not affect the quality of relationships in geographically distributed teams but perceived proximity does affect these relationships. They also found that perceived proximity mediates the connection between communication and relationship quality. According to Cha and Park [21], team members' psychological proximity is significantly associated with team work quality. Based on the construal level theory of psychology, individuals' psychological proximity depends on the psychological distance they perceive. In addition, perceived proximity positively mediates relationships between team member isolation and team outcomes in virtually collaborative work environments by allowing individuals to feel psychologically

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