Virtual teams in organizations

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ABSTRACT

Organizations continue to widely adopt virtual teams as a primary way to structure work and the recent growth in utilization has outstripped theory and research on virtual teams. The explosive growth in virtual team use by organizations and the inherent challenges of virtual teams highlight the need for theory and research to inform organizations in designing, structuring and managing virtual teams. Therefore, the purpose of this special issue is to (a) advance theory and research on virtual teams, (b) offer new directions for research on the topic, and (c) contribute to efforts to enhance the effectiveness of virtual teams in organizations. Toward this end, in this introduction we provide a brief overview of virtual teams and present an input-process-output framework to contextualize and organize the eight papers appearing in this special issue.

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Virtual teams are work arrangements where team members are geographically dispersed, have limited face-to-face contact, and work interdependently through the use of electronic communication media to achieve common goals. Virtual teams connect knowledge workers together over time and distance to combine effort and achieve common goals (Bell & Kozlowski, 2002). Over the past several decades, there has been an explosive growth in organizations' use of virtual teams to organize work and this trend is expected to only continue in the future.

For example, a recent survey of 1372 business respondents from 80 countries found that 85% of the respondents worked on virtual teams and 48% reported that over half their virtual team members were members of other cultures (RW[3] CultureWizard, 2016). The growth is attributable to factors including globalization, distributed expertise, organizations' need for rapid product development and innovation, and improved networking and collaboration technologies that support e-collaboration (Ilgen, Hollenbeck, Johnson, & Jundt, 2005; Kozlowski & Bell, 2003; Mathieu, Maynard, Rapp, & Gilson, 2008).

The use of virtual team structures holds great promise as virtual teams can do things collectively that collocated teams cannot. Some advantages of virtual teams include: the ability to assemble teams that maximize functional expertise by including professionals who are geographically dispersed, enabling continuous 24/7 productivity by using different time zones to their advantage, lowering costs by reducing travel, relocation and overhead, and sharing knowledge across geographic boundaries and organizational units and sites. In spite of the advantages of virtual teams, research has demonstrated that virtual teams present a number of challenges compared to co-located teams. Some disadvantages include communication and collaboration difficulties, low levels of media richness compared to co-located teams, potentially lower team engagement by team members, difficulties in creating trust and shared responsibility among team members, isolation, high levels of social distance between members, and challenges in monitoring and managing virtual teams.

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Not surprisingly, virtual teams have attracted increasing interest among researchers and practitioners due to their increase ubiquity in organizations (e.g., Gibson & Gibbs, 2006; Gilson, Maynard, Young, Vartiainen, & Hakonen, 2015; Kirkman, Rosen, Gibson, Tesluk, & McPherson, 2002). A review of the virtual team literature reveals that most scholars agree that managing virtual teams is more difficult than managing collocated teams (Davis & Bryant, 2003; Hoch & Kozlowski, 2014). As a result of lower levels of co-presence, leaders often have less influence and less information about the team's status, progress toward milestones and functioning and therefore the leaders' management of team processes and team dynamics may be impaired (Zaccaro & Bader, 2003; Zigurs, 2003). Related is the difficulty of developing adequate practices to uncover and resolve conflicts across distance, motivate team members, monitor members' performance, and build trust and team cohesion. Consequently, challenges of managing virtual teams have received significant attention in academic literature (e.g., Bell & Kozlowski, 2002; Cascio & Shurygailo, 2003; Gilson et al., 2010; Martins, Gilson, & Maynard, 2004) as well as in practitioner publications. In spite of growing attention and interest in virtual teams, surprisingly little is still known regarding the successful management of virtual teams.

The purpose of this special issue is to contribute to the literature base on virtual teams. Specifically, our objectives include advancing advance theory and research on virtual teams and offering new directions for research on the topic, with the goal of contributing to efforts to inform organizations on enhancing the effectiveness of virtual teams. Toward fulfilling these objectives, we present eight articles in this special issue. To organize literature on virtual teams and the papers in this special issue, we first present an adaptation of the input-process-output model (IPO) (Hackman & Morris, 1975; McGrath, 1964), and its subsequent enhancements that incorporate iterative feedback loops (Ilgen et al., 2005). The IPO has been the dominant theoretical framework used in research on co-located teams and it provides a tool for categorizing and integrating literature on virtual teams (Hoch & Kozlowski, 2014).

1. Input-process-outcome framework

The IPO provides a useful theoretical framework for identifying key inputs, team emergent states, processes, moderators, and outcomes relevant to virtual team effectiveness. The IPO represents an approach for decomposing virtual teams in terms of deterministic categories or factors. The IPO framework assumes that input factors influence team emergent states and process factors, and that emergent states and processes impact team outcomes and mediate the relationship between input factors and team outcomes (Ilgen et al., 2005). The IPO was initially developed and applied to research on co-located or face-to-face teams; more recently researchers have applied the IPO to study virtual teams (e.g., Hoch & Kozlowski, 2014; Webster & Staples, 2006).

In the following, we first present an adaptation of the IPO framework that includes general categories that are relevant to virtual teams. The model provides a contingency approach to virtual team research, based on the assumption that in particular organizations or situations different types of virtual teams (e.g., project or functional, short term or long term) that vary in terms of virtuality may be used. As a result particular inputs, processes, and moderating factors may be more or less deterministic to their effectiveness. In addition, the IPO framework presented below provides a diagnosis tool that practitioners may use to assess virtual teams in organizations, since the model decomposes virtual teams in terms of primary factors. Consequently, the IPO provides a basic framework and tool that both researchers and practitioners can use to identify and to enhance factors that are critical to virtual team effectiveness and thus their success. Following our presentation of the IPO model, we provide an overview of the papers in this special issue and highlight their foci in terms of the IPO model.

1.1. Inputs

Fig. 1 presents an adaptation of the IPO to virtual teams. There are three input categories which represent key deterministic criteria for virtual teams. First there is the category of organizational level factors. This component includes variables representing organizational actions in the design (i.e., creating, sizing, and structuring) of virtual teams, the assignment of purpose, tasks and objectives, and factors such as the physical work environments that virtual team members operate. In addition, organizational level factors include structural supports, which are organizational mechanisms that compensate for the absence of leader co-location by structuring, supporting, and directing VTs such as information and reward systems (Bell & Kozlowski, 2002; Hoch & Kozlowski, 2014).

The second input category is team leadership factors (Kozlowski & Bell, 2003; Zaccaro, Rittman, & Marks, 2001). While initially it was assumed that competencies and behaviors needed by vertical leaders to manage virtual teams were the same as needed to lead co-located teams (Meyer, 2010), today it is widely recognized that virtual team leaders also need relevant virtual team skills and appropriate leader behaviors to deal with the lack of face-to-face contact with team members. These include leaders having additional communication skills, depth of understanding in collaborative technology, ability to influence and facilitate team member engagement, an appreciation for cultural diversity, and an ability to influence and build trust and relationships with their geographical dispersed team members. An effect of virtual communication (in contrast to face-to-face) is an attenuation of leader influence, due to lower media richness (Daft & Lengel, 1986) resulting from the absence of nonverbal and verbal cues, body language, inflection, and gestures.

Included in Fig. 1 are leader behaviors that may at least partially compensate for an attenuation of leader influence, resulting from virtuality, including transformational leadership behaviors, which are characterized by idealized influence, inspirational leadership, intellectual stimulation, and individualized consideration (Bass, 1985; Avolio, Waldman, & Yammarino, 1991). Other leadership behaviors included are relationally oriented behaviors such as LMX as well leadership behaviors that facilitate virtual team member involvement such as empowerment and participative management.

Next, as displayed in the model in Fig. 1, the third category of input factors is team composition, representing both surface level and deep level diversity and individual differences, which are expected to impact team processes and outcomes (Hoch & Dulebohn, 2013).