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Chapter VII

Using a GSS to Support Virtual Team-Building:
A Theoretical Framework

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ABSTRACT

This chapter deals with the use of a group support system (GSS) to support virtual team-building. Literature review on Group Support Systems (GSS) indicates that most prior GSS research focuses on supporting face-to-face teamwork, and few studies were conducted in supporting virtual teamwork and team-building. When virtual teamwork becomes more common in modern organizations, how GSS can be used to enhance virtual team-building is becoming an important research issue. This chapter proposes a conceptual team-building framework. By embedding this conceptual framework into a GSS, the GSS may have the potential to support virtual team-building. Based on the framework, a set of testable research propositions is formulated, and some suggestions for future GSS research are discussed.

INTRODUCTION

Team-building is important and also necessary when a team faces problems of low production or output, increasing numbers of complaints from team members, more conflicts or hostilities among team members, ineffective team meetings, and decisions that are misunderstood or not carried out properly (Dyer, 1987; Huang et al., 2002; Phillips

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& Elledge, 1989; Salas et al., 1999; Svyantek et al., 1999). Surveys show that the vast majority of U.S. companies have realized that "team development is important to the success of their organizations...but a significant number of companies tend to neglect team-building, failing to include it as part of the corporate philosophy, objectives, or reward system" (Dyer, 1995, p.9). Teamwork has frequently not been as productive as expected (Dennis, Haley & Vandenberg, 2001; Huang, Wei, & Tan, 1999; Jessup & Valacich, 1993), and one of the main reasons would be that teams are not well developed before performing various specific tasks (Chidabaram & Bostrom, 1996; Larson & LaFasto, 1989; Straus, 1986; Zawacki & Lackow, 1998).

In modern organizations, global virtual teams such as global software development teams or Computer Aided Design/Computer Aided Manufacture (CAD/CAM) teams are becoming widespread (Meadows, 1996; Rayport & Sviokla, 1994). Virtual teamwork functions as a central mechanism for emerging virtual organizations (e.g., Davidow & Malone, 1992; Lucas, 1996; Jarvenpaa & Ives, 1994). Although there exists a rich GSS research literature for supporting teamwork, most previous GSS studies have been conducted in face-to-face (FtF) decision room settings (e.g., Briggs, Nunamaker, & Sprague, 1998; Dennis, Haley, & Vandenberg, 2001; Fjermestad and Hiltz ,1999; Huang & Wei, 2000; Huang, Raman, & Wei, 1997; Nunamaker et al., 1997). Virtual teamwork has been inadequately studied in GSS research literature, although some notable exceptions include the studies conducted by Chidambaram (1996), Chidambaram and Jones (1993), and Turoff et al. (1993). Further, even less research on supporting virtual team-building is available in GSS literature.

Virtual team-building would be the precursor of effective teamwork for many virtual teams. In virtual team settings, certain types of social interactions in face-to-face settings, such as informal talks over coffee breaks or in cocktail parties, which can often help enhance interpersonal relationships among team members, hardly exist. As a result, a specific session of team-building, aiming at supporting a team's interpersonal relationship and shared basis, may become even more important for a virtual team. If a virtual team is not well built up, for example, if a team's values and goals are not genuinely shared, team members can hardly collaborate with each other to accomplish a task effectively. Because teamwork largely involves collaborative activities (Huang et al., 2002; Larson & LaFasto, 1989; Turoff et al., 1993), working performance of a virtual team would be consequently dampened. In summary, virtual team-building should be an important research issue that has been largely neglected.

In general, there are two types of research approaches (Ackoff, Gupta, & Minas, 1962; Nunamaker et al., 1991): developmental and empirical research. The former attempts to develop improved work methods whereas the latter evaluates and understands them. A review on GSS literature indicates that much previous GSS research is empirical in nature. More effort is thus needed in developing new group work methods and/or theories in GSS research (Huang, Raman, & Wei, 1997; Nunamaker et al., 1991; Olson et al., 1993). This study adopts a developmental research approach and proposes a theoretical framework that can be embedded into a GSS system and aims to specifically support virtual team-building.

According to the Encyclopedia of Sociology (Borgatta & Borgatta, 1992), a team consists of four basic elements: (1) **team common identity or basis**– grounded in shared values, experiences, and goals; (2) **team structure**–interaction patterned in terms of