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Youngjin Yoo  
*University of Maryland*

Maryam Alavi  
*Harvard University*

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EMERGENCE OF LEADERSHIP AND ITS IMPACT ON GROUP PERFORMANCE IN VIRTUAL TEAM ENVIRONMENTS: A FIELD STUDY

Youngjin Yoo
University of Maryland, College Park

Maryam Alavi
Harvard University

In a virtual team environment, distributed team members work primarily through electronic communication channels across different time/geography for the duration of the project (Knoll and Jarvenpaa 1995; Yoo 1995). Effective leadership, among many others, is believed to play an important role in enhancing the effectiveness of virtual teams. Despite decades of leadership research, however, little is known about leadership in virtual team environments. This study is intended to fill this gap.

First, we investigate the process of leadership emergence in a virtual team environment. More specifically, we ask “Who will emerge as a leader in virtual team environments and do those leaders who emerge in a virtual team environment exhibit a similar set of leadership traits compared to those leaders who emerge in traditional face-to-face environments?” To answer this question, we advanced three research hypotheses based on a literature review of leadership and small group communication.

**H1:** Individuals’ talking behavior, power orientation, and task competence will be effective predictors of leadership emergence in face-to-face environments.

**H2:** The importance of talking behavior in predicting leadership emergence in virtual environments will be less significant than it is in face-to-face environments.

**H3:** Individual’s skill and usage frequency of electronic communication channel will be additional effective predictors of leadership emergence in virtual team environments.

Second, in this study, the impacts of different leadership styles exhibited by the emergent leader on effectiveness of virtual teams — measured by the quality of decisions and member satisfaction — are also investigated. According to leadership literature (House 1971; House and Mitchell, 1974; Pearce et al. 1995), when the environment is unstructured, directive leadership style is effective, whereas when the environment is structured, empowering leadership style is effective. In this study, two sources of structure are investigated: information technology (Lee and Treacy 1987) and group cohesiveness (e.g., Tuckman 1965). To examine these questions, we have advanced the following hypotheses.

**H4:** In virtual teams supported by a highly structured technology, directive leadership style is most effective, whereas in virtual teams supported by an unstructured technology, empowering leadership style is most effective.

**H5:** In low-cohesive virtual teams, directive leadership style is most effective, whereas in high-cohesive virtual teams, empowering leadership style is most effective.

To test these hypotheses, this study employs the field study methodology. Forty, six-person teams of senior executives of a government agency recruited from different regions of the United States are working on a realistic consulting project for a small town in the mid-Atlantic region over ten weeks in virtual team environments. Twenty teams are assigned into a highly unstructured environment supported by electronic mail and list-serve systems and the other twenty teams are assigned into a highly structured environment supported by a groupware system which has workflow automation and discussion database capability.
Leadership emergence is measured using a five item questionnaire used by Anderson and Wanberg (1991) and Lord (1977). Individual’s talking behavior is measured by ten items from the Assertion Questionnaire (Lewinson 1978) and eleven items from the Public Speaking Behavior Measure (Lang 1976). Individual’s power orientation is measured by nine items from the Power Orientation Scale (Goldberg, Cavanaugh, and Larson 1983). Individual’s own perceived computer skill is measured by ten items adopted from Kinzie, Delcourt and Powers (1994). Group cohesiveness is measured by six items from Smith et al. (forthcoming). Process and solution satisfaction is measured by ten items from Green and Taber (1980). The quality of group decisions will be judged by a panel of experts.

REFERENCES


