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Using Computer-Mediated Communication for Resource Conflicts

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Introduction

Technological advances have an ever-increasing impact in our society. Improved connectivity together with the increase in groups and teams has resulted in increased interest in extending the usefulness of IT at the individual level to support the issues faced by groups. In developing some of the initial uses of computer mediated communication (CMC) to support group tasks (Dennis, et al., 1988) included communication, planning, idea generation, problem solving, issue discussion, negotiation and conflict resolution.

Many group tasks result in conflicts between personal and collective interests where the short-term pursuit of self-interest by one part of the organization can lead to a long-term collective disaster. Most of the previous research on this type of social dilemma has focused on factors that facilitate individual solutions: understanding the dilemma, promoting coordination and cooperative action, creating social norms of cooperation, and promoting group solidarity. Communication among group members has been shown to increase the probability that group members will make more cooperative choices and sacrifice self-interest to conserve the common resource.

Literature Review and Research Framework

Many aspects of group dynamics have been studied in a face-to-face setting. The focus of this research is to examine the impact of using a computer-mediated communication (CMC) system to support individuals involved in a conflict between personal and collective interests. Many studies have shown the impact that using CMC can have on the group discussion process and task performance. A few studies have suggested that CMC has a negative impact on information exchange, (Hightower and Sayeed, 1996; Hollingshead and McGrath, 1993) and that CMCS can have both positive and negative effects on tasks that involve conflict (Pool, et al., 1991).

Empirical studies comparing computer mediated and face-to-face groups have shown varying effects of technology on group processes, performance, and user satisfaction. While CMC provides fewer cues than FTF communication, the cues available in CMC are likely to be stronger than those in FTF. In studying the group decision making process, various types of theories can be used to account for the impact of independent variables other than technology: social presence theory (Short, et al., 1976); social information processing theory (Fulk, et al., 1990); and adaptive structuration theory (Poole and DeSanctis, 1990). Viewing the use and effects of communication from an emergent perspective, this study will focus on the differences in social interaction among users.

Research Methodology

This study compares groups utilizing computer-mediated communication with groups who communicate in a face-to-face setting. After receiving an overview of the study, the CMC group was instructed on how to use the CMC software and given a task to familiarize themselves with the tool. Groups were then instructed in the resource dilemma simulation and allowed to play for a 5 season "practice" session. Subjects were then allowed a 10 minute period for discussion, either face-to-face or using a computer-mediated communication system to exchange information regarding the simulation and discuss different strategies. After discussion, the subjects began a 10 season "real" session which is more than sufficient to determine individual strategies subsequent to discussion. Finally subjects were required to fill out a post-experimental questionnaire.

Conclusion/Expected Contributions

Although many studies have shown the different impacts of technology on decision outcome, only a few studies have examined the discussion and decision process. Specific areas will be investigated such as: different strategies developed to preserve the common resource; the impact of the discussion process on task performance; the impact communication medium on group members' perceptions; and the effect of group composition on the discussion process.

This study should extend the understanding of using computer-mediated communication systems by examining the communication process for a task involving conflict between personal interests and the collective well being of the group. A detailed analysis of the discussion process and the subsequent task performance will be used as the basis for assessing the potential impact of technology on decision making. Finally some insights into the satisfaction of group members with the process and the task outcome can be used to guide future developments in computer-mediated communication systems.

References

References available upon request from author (gbaker@cgsb.tamu.edu).