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Factors Associated with an Individual's Satisfaction with Computer Aided Group Meetings: An Empirical Study

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Abstract

The use of group support systems (GSS) to improve the outcome of, and satisfaction with the meeting process continues to be an area of research interest. This empirical study looks at several individual characteristics that are believed to have an influence on the individual's satisfaction with the process of using a GSS as the medium for conducting the meeting. The factors selected were locus of control, group cohesion, computer self-efficacy, and computer avoidance. Participants were informed about the purpose of the study, given a practice session to introduce them to the technology, guided through the working portion of the meeting, and then asked to complete a post-session questionnaire. The results were analyzed with partial least squares (PLS) and all hypotheses were found to be significant at least at a .1 level showing that locus of control, group cohesion, and computer avoidance directly influence user satisfaction with the meeting process. Computer avoidance was the only factor that had a negative relationship.   The effect of computer self-efficacy was mediated by the computer avoidance factor. By better understanding individual characteristics that influence a person's satisfaction with the use of GSS, managers and facilitators may be able to ultimately improve participation, which in turn may improve the desired work product of the meeting.

Introduction

Decision making, in any important area, is typically preceded by information gathering. One typical way in which organizations gather information is to let a team of selected individuals make recommendations on how best to address the specific situation. This may be done through one or more "group meetings" called in order to analyze the situation, design possible alternatives, and finally choose an alternative the group perceives as most desirable, given the current circumstances. In an effort to improve the group meeting activity, group support systems (GSS) have been developed and used to facilitate group communications, to enhance gathering and organizing of ideas, and to provide structure during the analysis phase (DeSanctis and Gallupe 1987). Research has shown that, in general, groups using a GSS are more productive and their members are more satisfied with the process than groups not using a GSS (Dennis and Gallupe 1993). This empirical study examines the effect of group member characteristics on individual satisfaction with the GSS process. Group member characteristics have been found to be important predictors of group outcomes (McLeod 1992). The characteristic variables chosen, namely, locus of control, group cohesion, computer self-efficacy, and computer avoidance, have been of interest in prior research.

Research Hypotheses

Locus of Control refers to the degree to which people feel that control of their successes and failures depends on themselves versus external factors (Henerson, Morris et al. 1987). Rajcki, et. .al (1981) found that individuals with an external locus of control were more socially dependent than those with an internal locus of control when faced with an ambiguous situation. They had a need to clarify the situation through information exchange with others. Since the use of a GSS limits the opportunity for social exchanges, we propose the following:

Hypothesis 1: Compared to individuals with high levels of external locus of control, individuals with high levels of internal locus of control will be more satisfied with the GSS process.

Group Cohesion reflects the extent to which a group is willing to stick together (Steiner 1972). Janis (1972) suggests that groups with higher levels of cohesion will be more likely to enjoy the decision making process or even feel a sense of elation with it. As a result, we have included an individual's view of group cohesion in the model to control for this effect:

Hypothesis 2: Compared to individuals who perceive their groups as having lower levels of cohesion, individuals who perceive their groups as having high cohesion will be more satisfied with the GSS process.

Computer avoidance is viewed as the resistance towards the use of computers in accomplishing work activities. Several factors can lead to computer avoidance,

- fear of increased control by senior management (Argyris 1970), fear of increased accountability for ones actions (Argyris 1970), wariness of changes in work-life (Quible and Hammer 1984; Thiel 1984; Canning 1985), concerns for one's health (Debow 1988; Kirkpatrick 1988), fear of deskilling and alienation (Zuboff 1982; Wynne and Otway 1983; Blackwell 1988; Moore 1989), and apprehension about increased monitoring (Keen 1980; Zuboff 1982).

One particularly interesting factor that may lead to computer avoidance is self-efficacy in a computer-mediated environment. This is defined as "an individual judgment of one's capability to use a computer (Compeau and Higgins 1995, p. 192)". Individuals less confident in their computer-related abilities will tend to ascribe negative consequences to computer use due to insufficient understanding of computer technology. On the other hand, individuals with higher levels of confidence in their computer-related abilities will not show such avoidance behavior. Higher levels of computer avoidance are likely to result in lower satisfaction with the meeting process if the meeting is computer mediated. Increasing a users self-efficacy and skills with respect to using computers will likely lower their computer avoidance and result in success and satisfaction with computer use. This can be formally stated as:

Hypothesis 3: Computer avoidance will mediate the relationship between self-efficacy and satisfaction with use of computers for problem solving.

In the remainder of this paper, we outline the research design and present the results.

Research Design

This experiment investigated performance satisfaction in a GSS environment with 6 groups of 6 to 14 subjects each. Because this was a field experiment, sponsored by a University department, the researchers were unable to control for group size. The task given to participants was relatively simple. They were told that we were interested in determining what are the characteristics of an effective supervisor at a large southeastern university. The subjects were asked to generate ideas on the issue, reduce the list down to a more manageable number of ideas, and place a vote on the best idea of those remaining. The GSS utilized in this experiment was VisionQuest. The participants used three of the components of VisionQuest: brainwriting, reducing, and voting.

Findings

Factor analysis was performed on the constructs of computer self-efficacy, locus of control, group cohesion, computer avoidance, and process satisfaction. Factor analysis determined that the items loaded to the appropriate constructs. Reliabilities were also checked and were found to be acceptable according to the standard proposed by Nunnally (1978)

Results were analyzed with partial least squares (PLS). The results of this analysis (Figure 1) showed that all hypotheses were significant to at least a .1 level

The results show that locus of control and group cohesion are associated with satisfaction with the group process. As predicted by hypothesis 3, computer avoidance mediated the relationship between computer self-efficacy and process satisfaction. The results of this study reinforce the prior research (Dennis and Gallupe 1993) and show how the selected factors lead to satisfaction with the GSS process. Managers can use the findings of this study to enhance satisfaction with GSS use in their organizations and ultimately the quality of the work product outcome.

Figure 1. Research Model and Findings
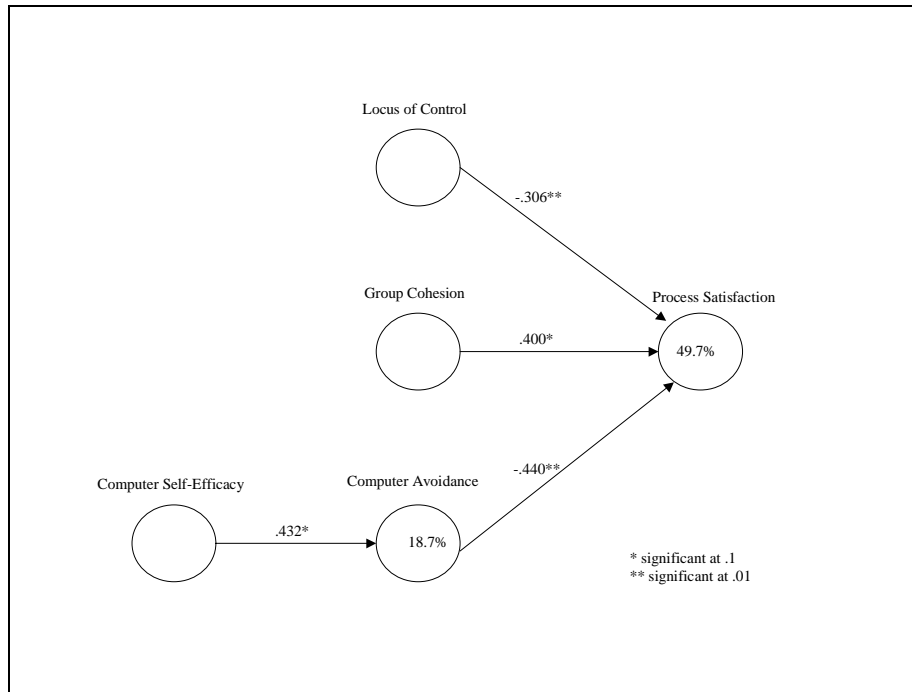
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