

# A Time Allotment Recipe for Electronic Group Meetings

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**Abstract.** In this study on the roles time constraints played on electronic group meeting processes and outcomes, subjects participated in time-deprived, time-optimal, and time-abundant conditions, respectively. Time-deprived groups and time-optimal groups reported similar levels of meeting process satisfaction and confidence with group decision and members felt that the electronic group meeting system's anonymity feature contributed positively to their meeting. Time-abundant groups, on the other hand, had the lowest reported levels not only in confidence with decision, but also in perceived group cohesiveness. Time-optimal groups were the strongest in the capability in reasoning group members' inputs. Overall results from the study indicated that groups of different time conditions were varied in their perceptions on several areas of the meeting processes and, it was found that the relationships between time and groups' perceptions of meeting processes and outcome were not linear.

**Keywords:** Electronic Group Meeting, Group Support System, Time, Facilitator.

## 1. Introduction

With the greater use of information technology in recent decades, electronic group meetings have evolved to alleviate many shortcomings of traditional, face-to-face verbal group meetings. In general, electronic group meetings enable groups to improve decision-making efficiency, foster consensus, and increase satisfaction while drastically reducing meeting time. However, empirical evidence on the success of electronic group meetings is mixed. Part of the discrepancies can be explained by the difference in group size, task, and other factors in the studies that were often times overlooked or not reported. Thus, it can be difficult to generalize the benefits of electronic group meetings beyond the specific conditions in which they were conducted. Notwithstanding, electronic group decision support is a critical aspect of electronic group meeting systems because modern organizations' reliance on such systems will continue to increase. Countless organizations have been conducting electronic group meetings via corporate Intranets or the Internet without group members leaving their offices despite the fact that members are scattered across different time zones and national borders.

Time resource used for electronic group meetings are usually pre-determined. One would often hear from colleagues and friends that meeting under increased time constraints is becoming the parts and puzzles of everyday professional lives. Time allotment in meeting is one of the factors that may moderately to substantially influence group meetings' processes and outcomes. Yet, despite the tremendous importance of time as an organizing principle for behavior, there are relatively few studies in electronic group collaboration that address its impacts. The purpose of this paper is to investigate how various aspects of group meeting are affected under different conditions of time allowance.

## 2. Background

Studies on the effects of time constraints on electronic group meetings are sparse. Previous studies (Reinig and Shin, 2002; Holt, 2002; Fjermestad 2000/2001; Dennis, Wixom, and Vandenberg, 2001) have shown that electronic group meetings can be superior to traditional, verbal meeting. For example, groups using Group Support Systems technology, designed for conducting electronic group meetings, can type

comments simultaneously and anonymously, resulting in more equal participation, less production-blockings, better decisions in less time and enhanced “buy-ins” of the final outcomes. However, to what extents electronic group meeting group behavior variables fluctuate with time limit remains relatively unknown.

Nonetheless, it may be reasonable to suspect that time allowance can alter the level of social presence, thereby changing group polarization and behavior patterns. I speculate that when there is a perception of severe time constraint, group participants are more willing to engage in a more autocratic decision-making process in order to complete group task on a timely manner. Because of time deprivation, groups will also tend to engage more in one-upmanship behavior attempting to surpass one another in direction favored by the group which in turn enhances group cohesiveness. However, the downside may be that the quest of pluralistic balance (trying to reach a compromise between their preferred positions and those believed to be welcomed by others) in moving task forward may substantially lower the group’s ability to develop salient arguments, and ultimately, reduces group’s confidence with decision. The reduction in social presence caused by time deprivation coupled with the provision of anonymity further promotes ease in changing one’s opinion without loss of face. However, because anonymity may encourage depersonalization even within time abundant groups, one may or may not observe their behavior to be the exact opposite of those of time deprive groups. For example, when group members are aware that time is plentiful, they may be prone to engage in self rather than group interests. Even though a low level of social presence preserved by anonymity helps create a conducive environment that encourages greater extent of valid and novel arguments, members in time abundant groups may be less inclined in forgoing their positions in favor of others thinking that they have time to influence others with their opinions. In a worst case scenario, low inhibition and low social presence can promote flaming among people in their pursuit of self-interests. Such behavior may be detrimental to arriving at mutually agreeable decisions.

From the above discussion, I postulate hypotheses, in null forms, as follow:

- H1: There will be no difference in perceived reasoning ability (REASO).
- H2: There will be no difference in perceived group cohesiveness (COHES).
- H3: There will be no difference in perceived helpfulness of anonymity (ANONY).
- H4: There will be no difference in reported meeting process satisfaction (SATIS).
- H5: There will be no difference in reported confidence with final decision (CONFI).

### **3. Methods**

A preliminary study was carried out to ensure that experiment treatments, procedures, task and post-meeting questionnaire did not present major problems. Minor revisions were made to experimental methodology used for actual study.

#### **3.1 Task**

The study used an evaluation task of examining four predetermined alternatives for reducing freeway congestion on a major freeway in the San Francisco North Bay area. Subjects were instructed to exchange comments considering the feasibility of each alternative and to decide on the best to worst order of alternatives collectively. Towards the end of meeting, facilitator would instruct groups to rank their preferences of those four alternatives. The subjects were mostly residents of the San Francisco North Bay area and were familiar with the severe and chronic traffic congestion problem. Because of their regular exposure to the problem, interests in the task topic, their opinions may be strong. This task has several advantages. First, attractiveness of the pre-determined solutions is controversial but does not require special knowledge during discussion. Second, the task is realistic enough to simulate real-world problem solving.

#### **3.2 Time Allotments**

In the preliminary study using a spectrum of time allowances (10-minute intervals, between 10 to 50 minutes), five groups of 10 subjects each met using the same task. Each group was informed of the time limits before meeting started and subjects provided feedback on a seven-point scale post-meeting questionnaire that included questions asking whether they felt they were relatively comfortable with terminating their discussion and moving on to the voting stage of a meeting. It was determined that 30 minutes was an optimum limit (40 minutes being a close second). I, therefore, estimated that 15, 35, and 50

minutes should adequately cover a spectrum of three time urgency conditions: deprived, optimal, and abundant time, respectively.

I also requested pre-test subjects' verbal and written feedback on earlier versions of post meeting questionnaires administered for reliability and validity reasons. Their inputs were used as basis of my revisions to arrive at the actual post-meeting questionnaire being used. As opposed to general practice of questionnaire design of including several questions to examine a variable, I was repeatedly advised to use only a single question approach to measure each variable whenever possible.

### **3.3 Procedure**

Twelve groups of 10 upper-division undergraduate student subjects each (four groups per treatment condition) participated in the study. Each and every group were distributed and met in four dispersed locations within campus, the library training lab, the language lab, and two business school instruction labs, respectively. An electronic group meeting system that was available on the campus' local area network that supported simultaneous and anonymous submission and viewing of all inputs generated was used.

All groups were given a brief training exercise in the business school computer lab to learn how to use the electronic group meeting software before distributing group members to different locations and starting the actual discussion. Before group members dispersed, instruction sheets describing the task, alternatives, and what was expected of the groups were distributed and read aloud. At this time, participants were given the opportunity to ask questions regarding the task. Next, each subject was randomly handed an envelop that specified his or her location, time to be seated and computer station number to ensure members who happened to be assigned to the same location did not work within close proximity of each other. The only control exercised was to ascertain that each group consisted of exactly five men and five women. This was to minimize the gender effects discovered to have the potential of skewing meeting results (Wong and Aiken, 2003). Only when participants are seated at their assigned location and station then were they allowed to open the envelop that contained a card that specified their group number, user number and time limit for discussion and decision-making. Each group was also informed of the time limit allotted before their meeting commenced and was informed that the facilitator, also the course instructor who was stationed at one of the Business School instruction labs, would continually remind the group online of time remaining time at 10-minute intervals throughout group discussions. Three research assistants were also assigned to each of the three other locations to assist group participants if any problem in using the meeting system arose, to ensure everything was in proper order and to administer the post-meeting questionnaires. After the meeting, the subjects completed the questionnaire. All twelve meetings were conducted over several two-hour blocks (for those sections that met twice a week) and four-hour blocks (for those that met once a week) allotted for class meetings. The upper division Management Information Systems course at the University was designed to be a four credit hour class.

## **4. Results And Discussion**

A comprehensive exhibition and discussion of the study results shall be presented during conference meeting.

## **5. Conclusion**

Time constraint is one of the most frequently cited problems in organizations today, and time must be viewed as a scarce and valuable resource that must be managed effectively. By determining the right amount of time to allot for an electronic group meeting, the performance and efficiency of group meeting can be improved, but often at the expense of other facets of the meeting. The relationship between time and a group's perceptions of meeting processes and outcome is not linear. This study shows that too little time can be detrimental, but an over-allotment of time can also cause harm.

As unlikely as one may enter a group discussion without a set agenda, electronic group meetings are also unlikely to be planned without predetermined time limits. Whether an organizational is novel to electronic group meeting system technology, good planning and realistic expectation are keys in benefiting from electronic group meetings. Ideally, meetings should be allotted the optimal time for a given task. However,

as time allotment is frequently not optimal, meeting facilitators should be trained to promote different group strategies to cope with time constraints. Time limits should only be used as guidelines especially when heuristics or experiences on deciding appropriate time limits for task completion are not available. I recommend scheduling electronic group meetings with tight initial time limits while allowing room for extension of such limits and participants should be advised of the room of flexibility. On the same token, facilitators must know how to manage meetings by continuously assessing group's communication climate much like checking the temperature of engine during long distant driving. The ability of facilitators to effectively and promptly intervene by advising time extensions on the fly will be highly desirable. Also, members' unrealistic anticipation of what the system can help accomplish is often the primary reason for adoption failure. Group's behavior, as revealed in the study, is dictated by members' awareness of time limits and their perceived time completion urgency. Careful planning in ensuring organization's transition to a new system is a complex mission. If organizations only focus on educating users about the general benefits of system and on how the system functions without appreciation of the fact that system success is contingent upon several prevailing factors, these organizations are making a big mistake.

## 6. Limitations and Future Result Directions

The generalization of this study is limited in several ways. First, meetings were conducted using a single task. Further studies of involving differing different task types and complexities will be enlightening. Second, variables included in study is limited, examination of other variables will provide additional opportunities for research. Next, findings were based on a time-one meeting, hence possesses limitation in isolating factors of electronic group meeting experience. A longitudinal study to examine how participants may apply their experiences to contend with time pressure in electronic group meetings will represent a fertile area of investigation.

## 7. References

- [1] Dennis, A., Wixom, B., and Vandenberg, R.J. (2001). Understanding Fit and Appropriation Effects in Group Support Systems via Meta-Analysis. *MIS Quarterly*, 25(2).
- [2] Fjermestad, J. (2001/2002). Group Support Systems: A Descriptive Evaluation Case and Field Studies. *Journal of Management Information Systems*, 17(3).
- [3] Holt, K. (2002). Nice Concept: Two Days' Work in a Day. *Meeting News*, 26(11).
- [4] Reinig, B.A., and Shin, B. (2002). The Dynamic Effects of Group Support Systems on Group Meeting. *Journal of Management Information Systems*, 19(2).
- [5] Wong, Z, and Aiken, M. (2003). The Effects of Meeting Duration on Gender Groups in Computer-Mediated Information Processing and Decision-Making. *Proceedings of 34<sup>th</sup> Annual Conference of Western Decision Sciences Institute*, April 15 – 19, 2003, Kauai, Hawaii.