Group Support Systems in Organizations: The Potential Effects of Anonymity

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ABSTRACT

Many of the positive effects of Group Support Systems (GSS) have been ascribed to the anonymity feature. The current paper examines the potential consequences of the anonymity feature in the organizational environment. The paper argues that anonymity is difficult to achieve and maintain in an ongoing organization. Even if anonymity could be achieved and maintained, it can lead to several potentially undesirable effects. First, there may be problems with commitment to decisions. Second, executives who have succeeded by being good judges of people rather than good judges of ideas will have problems adjusting to the new technology. Third, organizational schemes for individual rewards and incentives will be difficult to implement. The paper suggests that organizations planning to implement GSS on the basis of positive effects reported for the anonymity feature should anticipate the potentially undesirable effects and proactively formulate solutions.

INTRODUCTION

The attempts to transfer computer-supported group processes from the laboratory environment to the organizational environment are progressing on many fronts. Group decision rooms have been built on organizational premises by corporations (e.g., Boeing Corp). Collaborative projects (e.g., the IRS and the University of Minnesota) have been undertaken with the dual purpose of transferring the technology into organizations and of enabling long-term studies of the effects of GDSS on organizations and organizational decision making. Both universities and commercial organizations have built group decision rooms that can be rented on a per diem basis (for example, IBM, Queen's University, University of Arizona, University of Minnesota). Additionally, several organizations have started to market software to aid group interactions (for example, Ventana Corp, Collaboration Technologies Corp). This shift of the group support system technology from the experimental and exploratory stage to the use in the "real world" suggests an urgent need to examine the potential effects of group support systems in organizations.

Group support systems are not monolithic, nor do the design features remain invariant over a period of time. However, the one feature in GSS which has been prominent over time and across implementations is anonymity [1]. The anonymity feature allows anonymous contributions and / or anonymous voting on issues. The feature is an integral part of some systems, while other systems allow the group to decide if the anonymity feature is going to be used. What is important is that many of the studies reporting positive effects for GSS have attributed some or a large part of the effects to the anonymity feature. The central role ascribed to anonymity in explaining the benefits to be derived from GSS leads to the need to examine the role of anonymity in organizational decision making.

The present paper begins by reviewing the evidence of the effectiveness of GSS. In particular, the factors contributing to the effectiveness of GSS are examined to highlight the contribution of anonymity. The paper then examines anonymity in an organizational context. Two major themes are addressed. First, can anonymity be really achieved during the course of the meeting and maintained over a period of time? Second, if anonymity can be achieved, what are the potentially undesirable effects? The potential effects discussed are: (a) commitment to the decision, (b) the effect of management styles on the acceptance of GSS and (c) the issues related to employee compensation schemes. The list of potential effects is not comprehensive. The focus is on identifying potential problems with a view to developing solutions, rather than providing a balanced view of the potential effects.

THE LEVELS OF ANONYMITY

There are three levels of anonymity: anonymous participation, anonymous contribution and anonymous choosing. Anonymous participation would be when each participant does not know who the other participants are. This would not

be possible in the face-to-face environment, but could conceivably be implemented in the distributed environment. Anonymous contributions would refer to the input of ideas without the identity of the proponent being revealed. It could also include the anonymous evaluation of ideas. Anonymity is recommended implicitly for idea generation, but it is not always clear if it is recommended for idea evaluation. Anonymous choosing refers to the process of voting or ranking or rating without revealing the identity of the chooser.

Since anonymous participation has not been recommended or implied at all by any of the GSS designers, it will be ignored in this paper. The paper will focus mostly on anonymous contributions because most benefits have been reported for anonymous input of ideas.

THE REPORTED BENEFITS OF ANONYMITY IN THE GROUP ENVIRONMENT

Proponents of GSS [5, 17, 21] have claimed beneficial effects for several features in the support system, for example, simultaneous input, anonymity, public display and so on. The claims of beneficial effects are usually based on increasing participation and reducing deleterious effects of dominance arising from status or other sources. Studies on GSS have either tried to compare group performance with GSS and without GSS, or tried to examine the effects of individual features.

Studies comparing performance with GSS to performance without GSS include Gallupe et al [5], George, Easton, Nunamaker and Northcraft [6] and Watson, DeSanctis and Poole [22]. Gallupe et al [5] studied the benefits of GSS for tasks of high and low difficulty. They had anticipated generation of a larger number of ideas based on the anonymity feature and this was confirmed. George et al [6] found that GSS groups were less likely to reach consensus, took more time to reach a decision, but found no effect for assigned leadership or anonymity. Watson et al [22] observed no differences in post-meeting consensus and in the equality of influence.

Some attempts have been made to study the effects of the individual features or clusters of features of GSS [2,4,11,12, 13,19]. Jarvenpaa et al [11] examined the effects of the features provided via the workstation and the effects of the public display. Connolly et al [2] studied the effects of anonymity and the effects of critical comments. Easton et al [4] compared the effects of Electronic Brainstorming Tool (EBS) and Electronic Discussion Tool (EDS). Jessup et al [12] focussed on the effects of anonymity. Jessup and Tansik [13] studied the effects of anonymity and proximity. Sambamurthy [19] compared the effects of Level I GDSS to the effects of Level II GDSS. It becomes clear that there is only a limited amount of empirical information on the effects of anonymity. This is consistent with what other authors such as Connolly, Jessup and Valacich have said: "... the current rapid progress in GDSS development is running far ahead of empirical demonstrations of their effectiveness..." [2, p. 701].

A deeper examination of effects observed for anonymity shows a mix of results. Connolly, Jessup and Valacich [2] have shown that anonymous groups generated more ideas, although the quality of ideas (as rated by experts) were not affected by anonymity or the lack of it. Jessup, Connolly and Galegher [12] observed that group members in the anonymous condition produced more comments and were more probing in their examination of the comments. George et al [6] found that GDSS leads to consensus, while anonymity itself showed no benefits.

Other researchers have inferred the sum of these findings to be beneficial. George et al [6] provide the argument that anonymity enhances the number of critical remarks [12] and that critical remarks have been shown to increase the number of ideas generated in brainstorming [2]. Consequently, it can be inferred that anonymity enhances performance in brainstorming. But the George et al [6] study itself showed no effect for anonymity.

In summary, one could state that when empirical studies have demonstrated positive effects for GSS, then the positive effects have oftentimes been attributed to anonymity. For purposes of this paper, it is not critical whether anonymity has been demonstrated to be beneficial or not. It is enough that GSS literature is pervasive with the belief that anonymity is beneficial. Huber [8] recommends the inclusion of anonymity as a feature in GDSS. Nunamaker, Applegate and Konsynski [15] in discussing factors facilitating the idea generation process say, "'... allowed group members to enter their ideas into the computer in a completely anonymous fashion. The status, authority, and roles of the group members were divorced from the comments so that each comment was evaluated on its own merits rather than being evaluated in light of the person who made the comment." [14, p. 12]. Gallupe, DeSanctis and Dickson [5] compared GDSS to non-GDSS performance. Anonymous communication was part of the tools provided in the GDSS treatment based on the argument that "... by allowing anonymity of expression, should encourage more ideas to be generated" [5, p. 281]. Rao and Jarvenpaa [17] have suggested that anonymous communications will help reticent persons, low-status members and that it will be more useful in creative tasks than in choice tasks. Jessup, Connolly and Galegher [18] generally imply that anonymity is beneficial, citing an example, "one user said that she liked the system because when people criticized her comments, she felt that they were focussing on the content of her comments, not on her personally ..." [p. 318].

In summary, the researchers in GSS appear to have a substantial belief in beneficence of anonymity. The empirical

evidence on the beneficial effects of anonymity is somewhat limited and even that limited evidence is mixed. It is not intended to question the validity of the reasoning or the results demonstrated so far. The assertions that anonymity can contribute positively to group interaction will be taken at face value. The interest, at present, is more in examining the viability of transferring this feature into the organizational environment.

A "caveat" is in order at this point in time. The inability to transfer the anonymity feature to organizations does not negate the benefits of the other features or of GSS as a whole. What it points out is that researchers in GSS should either focus on the other features or should work actively at addressing the issues raised in this paper.

THE POTENTIAL EFFECTS OF ANONYMITY IN THE ORGANIZATIONAL ENVIRONMENT

The successful use of anonymous contributions in group decision making in organizations requires the organization to contend with two sets of issues. The first set deals with the achieving and maintaining of anonymity in the group decision making process in the ongoing context of organizational activities. The second set deal with the potentially undesirable effects of anonymous contributions. Each set of issues is discussed and propositions derived.

The Difficulty of Achieving and Maintaining Anonymity

The problem of achieving and maintaining anonymity has been acknowledged by many researchers. For instance, Connolly, Jessup and Valacich say, ".. it is easy to predict a large effect for anonymity in a group of established colleagues ....(if, indeed, anonymity could be maintained in such a group)" [2, p.700]. In this paper, the issues of a priori lack of anonymity, the breakdown of the spirit of anonymity and the post priori loss of anonymity are discussed.

The a priori lack of anonymity: Most groups in organizations have a long-term relationship. The issues confronting the group tend to persist over a period of time. So, over the course of the existence of the group, individual members become aware of the biases of the other group members. So, oftentimes the identity of the proponent of an idea can be determined from the idea. Contrarily, when an ad hoc group is formed, individual members are not aware of the other members' opinions on most issues, so it is possible to obscure the identity of the proponent of an idea. This leads us to the first proposition.

Proposition 1: The anonymity of contributions will be higher in ad hoc groups with no history than in ongoing groups with an established history.

The breakdown of the spirit of anonymity during the process: GSS systems are designed to facilitate the achieving and maintenance of anonymity. However, the participants cannot be prevented from challenging the spirit of anonymity. There are two dangers here. First, anonymity may be lost when a person in authority discards it. Second, a more insidious event would be when an attempt is made to break anonymity, but the attempt is contained. This could lead to the illusion that the decision making process has been carried out in the intended spirit of equal participation, whereas in reality, dramatic changes may have been introduced to the process below the surface.

One example from a description of events that occurred at the University of Arizona [16] is discussed. The group using the system was a group from the armed forces including a general. In the middle of the session, when the participants were entering anonymous comments, the general thundered, "WHO SAID THAT?" The facilitators intervened to explain that this was not in the spirit of the GSS environment. It is not clear what happened beyond that. But one can speculate on some of the scenarios that could follow. One, the meeting continues with anonymity no longer permitted. Two, the lower status members, no longer feel free to contribute freely. In either case, the benefits likely to accrue from the anonymity feature are lost.

Proposition 2: When anonymity threatens the existing influence pattern, there will be both overt and covert attempts to undermine the effects of anonymity.

The post priori loss of anonymity: Many of the ideas that are put forth in brainstorming sessions are in the form of phrases or brief sentences. Often, an idea may be unclear, or else the idea can only be judged in the context of other issues that are associated with it. For example, a person may suggest that $10,000 should be spent on a computer. This may require a clarification for members who do not know the cost of computers. The cost of computers may have been higher or did the prices fall? The evaluation of the idea cannot proceed without the clarifications. The clarifications could be obtained outside the group or provided by someone other than the person putting forth the idea. However, in most cases the clarifications are best provided by the person who made the suggestion. So as the discussion continues, it will be possible to link the idea with the speaker. Alternately, the idea could die for want of a clarification. Gibson and Ludl state "... the voice inflection and body language of the participants, in the discussions that took place before and after a vote, would indicate personal feelings on the topic [7, p. 279]. So,

Proposition 3: The anonymity of contributions will be lower towards the end of the decision making process than towards the early stages of the decision making process.

In summary, it has been argued that anonymity is difficult to achieve and maintain in ongoing groups.

The Issue of Commitment

The group commitment to decisions can be argued in one of two ways. First, GSS supports a consensus-based process. Such a process has been generally been shown to enhance the satisfaction of group members. The enhanced satisfaction can be argued to increase group commitment to the process outcomes. The second arguments would have a basis in the research of Salancik [18] and Staw [20]. Salancik [18] postulated explicitness, revocability, volition and publicity as the four factors that determine the extent of commitment. Explicitness relates to the deniability of the act. Anonymous ideas are easily denied by the proponent, and are therefore not explicit. Revocability refers to the reversibility of the action or decision. An idea put forth anonymously can be easily revoked. Volition refers to the freedom to express an idea or perform an act. Anonymity does not affect volition. Publicity or publicness refers to the extent to which other people know of the expression of the ideas. Anonymous ideas are not public. Low explicitness, high revocability, high volition and low publicity all reduce the extent of commitment. Anonymous ideas are not explicit, are easily revocable and have low publicity. So, the individual commitment of the proponent to the idea will be low in the face of opposition during implementation or if the idea runs into problems. The other members of the group have no ownership of the idea and are unlikely to espouse the idea. Since no individual member has commitment to the idea, the group commitment to the idea will be low. So,

Proposition 4: If problems are experienced during implementation, then group commitment to decisions based on anonymous contributions will be lower than groupcommitment to decisions based on open contributions.

The Issue of Evaluating Ideas

One of the primary activities of managers is to make decisions. Decision making involves the evaluation of ideas or alternatives that are put forth by oneself or others and arriving at a choice. The prescriptive method for decision making involves the evaluation of the ideas or alternatives using objective criteria. Such prescriptions assume that each person involved in the evaluation is aware of the objective criteria and is able to evaluate the ideas using the criteria. Mintzberg, Raisinghani, and Theoret [14] have reported that many decision makers in organizations evaluate ideas on the basis of the proponent of the idea rather than on any objective criteria. While this may violate the generally prescribed methods for decision making, it is easy to see how this can come about. Many decision makers do not have the knowledge or skills necessary to evaluate the ideas being proposed. Decision makers do not fully comprehend the issues that are being presented to them [14]. Liou and Nunamaker [10] observed that managers relied considerably on experts during their field study on the use of GSS for knowledge acquisition. Sometimes decision makers are constrained by the time available to make the evaluation. Also, while factual information may be judged objectively, opinions and extrapolations of data tend to be judged subjectively. One aspect of the subjectivity is the proponent of the idea. In the event of anonymous contributions, the manager is deprived of the information about the proponent thus hampering his ability to make a decision. So, it is suggested,

Proposition 5: Managers who evaluate ideas on the basis of the reputation of the idea's proponent are more likely to reject the use of anonymous contributions than managers who evaluate the intrinsic quality of the ideas.

The Issue of Rewards and Incentives

Organizations rely on a system of rewards and incentives to motivate employees at all levels. Such incentives include monetary rewards, promotions and non©monetary benefits [23]. Huber [8], in his hypothetical scenario, recognizes that "potential recognition for one's ideas can be used as a motivator.." [8, pp. 101]. The incentives can be based on individual performance or group performance [3, 9]. Anonymity presents a situation where individual contributions cannot be identified, so the performance of the individual cannot be recognized. So, group incentive schemes must be considered.

The implementation of group incentives in the current context differs from earlier discussions in literature in two aspects.First, an examination of instances where group incentive schemes are discussed [for example, 3, 9] indicates that the group incentive schemes have been devised for activities where a group works together to produce a physical product. The activities in producing physical products are not anonymous, so the failure to contribute to group effort is recognizable and can be dealt with. There is no report of the use of group incentives for a purely decision making task, much less a task that includes anonymous contributions.

Second, most group incentive schemes rely on rewards, such as pay and bonus, which can be given to all members of the group. Rewards such as promotion need information that will allow individual performances to be differentiated. Anonymous contributions make it difficult to identify and reward those with the necessary intellectual faculties for promotion. So, the use of GSS with the anonymity feature in

organizations on a continuing basis presents the issue of devising an acceptable set of incentives for performance.

Proposition 6: Organizations that reward team performance will be able to use GSS for anonymous contributions more effectively than organizations that reward individual performance.

CONCLUSIONS

The paper does not intend to suggest that GSS or the anonymity feature in GSS should not be used in organizations. The paper suggests that while anonymity may have positive effects on the quality of decisions made by groups, anonymity may also lead to undesirable effects. The successful implementation of GSS in organizations calls for the anticipation and resolution of these undesirable effects. The goal of this paper was to identify some of the undesirable effects based on theoretical arguments. In the current paper, the anonymity feature of GSS has been discussed. It has been argued that anonymity may be difficult to achieve in the corporate environment. Even if it achieved, it may lead to several potential problems. First, proponents of anonymous solutions to problems may not have high levels of commitment to their ideas. Second, some executives have been successful by being good judges of people rather than good judges of ideas. Such executives may reject a GSS that uses anonymity or be hampered by it. Third, organizations will have to resolve the larger questions of individual incentives and rewards, if the idea of GSS with anonymous contributions is to be accepted universally. Practitioners need to be alert to the possibility of these effects and take compensating measures to realize the benefits of the anonymity feature in GSS in organizations.

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