

Organizational Memory in Group Decision Making: Use of Constructive Group Conflict

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Abstract

The increased use of information technology (IT) support for group decision making has augmented the need for research on the performance of groups using such support. The use of organizational memory in IT supported group decision making has been discussed in the recent literature. Proponents of the use of organizational memory have cautioned against the biases that memory may introduce in the decision making process. Prior research has shown that group conflict can be constructively used. Using extant literature this paper develops a theoretical framework and hypothesizes that induced group conflict can be used to mitigate any biases organizational memory may produce.

Keywords

Organizational memory, group, decision making, group support systems, conflict.

1. Introduction

Groups are a collection of individuals having similar interest in the outcome of the group work. Conflicts may arise during group work because of the divergence in goals and interests of the members, their personality profiles, tendency to control the group work and so on. Extant literature on conflict has argued that conflict can be used constructively and can, in fact, make corporate groups more effective.

Various technologies are now available to support group work in organizations. One of the key elements of success in group work is the use of organizational memory (OM) that stores the knowledge gained from past work of the group. OM can facilitate group learning, provide justification for group decision and improve the efficiency of group decision makers. However, one major limitation of OM is the imposition of a frame of reference in the minds of the decision makers who may refrain from exploring the diverse viewpoints unless those are supported in the memory. In other words, the memory may introduce bias in the minds of the decision makers. In this paper we propose that conflict inducing mechanisms may be introduced in the group work to avoid the biases of organizational memory. We start with a discussion on conflicts in group tasks, followed by a review of the concept of organizational memory. Next, we develop a theoretical framework on the conflict inducing mechanisms in organizational memory supported group work. Four hypotheses have been presented in the paper. Finally, we discuss the implication of the framework and plans for future work.

2. Prior Research

2.1 Conflicts in Group Tasks

Groups may have inherent conflict in the interpretation of the group task outcome and solution scheme. The extent of this inherent conflict may be greater for larger groups due to the greater number of interpretations of the task (Sambamurthy & Poole, 1992). The effect of conflict on the decision making process has not been clearly established (Eisenhardt & Zbaraki, 1992). Conflict hinders decision making and can disrupt exchange of information thus reducing decision quality (Schweiger, Sandberg, & Ragan, 1986). But, researchers have also shown that groups can work more effectively using conflict constructively, as it may encourage thorough evaluation of alternatives (Cosier & Schwenk, 1990; Jehn, 1995). This may be because each group member brings unique perspectives and knowledge and discussion of these would help in inferences questioning assumptions and arrive at recommendations.

Group conflict affects group performance (Amason & Schweiger, 1997) and it is hence important to consciously manage conflict productively (DeDreu, 1997). But conflict is not a monolithic construct; it is multi-dimensional (Jehn, 1995). Researchers discuss *cognitive* and *affective conflicts* in the context of group decision making 'Cognitive conflict' is task-oriented, arises from differences in judgement while 'affective conflict' is personalized disagreement or individual disaffection. Affective conflict is detrimental to group performance while moderate amounts of task conflict can be beneficial (Jehn, 1995). Extant research on conflict has not used computer-supported decision making teams, where the use of anonymity may mitigate affective conflict.

Prior research demonstrates how task conflict, induced in a group can result in improvement in group (Tung & Heminger, 1993). Two popular methods for inducing task conflict is the devil's advocacy and dialectical inquiry. Devil's advocacy refers to critical scrutiny and examination of a group's plan or proposal (Herbert & Estes, 1977). Dialectical inquiry, refers to developing counter-plans and thus questioning assumptions underlying the group's proposal. Induced-conflict through devil's advocate and dialectical inquiry leads to better group performance in comparison to consensus based groups (Schweiger, Sandberg, & Rechner, 1986).

2.2 Organizational Memory

Organizational memory is defined as "stored information from an organizations' history that can be brought to bear on present decisions" (Walsh & Dewar, 1987). Stein & Zwass, (1995) discuss the enabling role of information technology (IT) in the implementation of organizational memory information system. By keeping track of past solutions to organizational problems and rationale behind past decisions, organizations can avoid wasting time, money and effort. El Sawy, Gomes, & Gonzalez (1986) argue that "organizational history-as-memory" must be actively managed in order to lead to future-oriented strategic thinking.

Walsh & Dewar (1987) argue that organizational memory has a positive influence on effectiveness of decisions. Leonard-Barton (1995) discusses both positive and negative effects of organizational memory through concepts of "core capabilities" and "core rigidities". Argyris & Schon (1978) put forth that reinforced single loop learning in organizations could cause organizations to be "stuck in the muddle".

A form of organizational memory is group memory, which can be used in various group tasks such as, meetings and projects. Weiser & Morrison (1998) discuss the use of group memory in projects. Satzinger, Garfield, & Nagasundaram (1999) describe how contents of group memory in a GSS influence ideas generated by individuals.

The availability of relevant information may make some members avoid paths which have previously been explored and found ineffective (Walsh & Ungson, 1991). The groups with organizational memory support are, thus, likely to perform better than groups without memory support. However, a major drawback of memory has been encased learning, which may invoke routine responses to non-routine situations (Stein & Zwass, 1995). Too much reliance on the information available in the memory may bias the group members in making judgments about the frequency or likelihood of occurrence of an event (such as, the consequences of making a choice). This is referred to as the availability bias in the literature (Tversky & Kahneman, 1974). An approach to overcome this bias is to engage the group members in a constructive conflict so that the relevance of the memory contents in the current decision situation are examined thoroughly.

In the next section, we discuss how the performance of the groups using the organizational memory can be improved by inducing constructive conflicts using approaches such as, devil's advocacy (DA) and dialectical inquiry (DI).

3. Research Model and Hypothesis

3.1 Model

In extant literature, performance of groups has been measured through task related measures such as decision time, number of comments, idea quality, depth of evaluation of alternatives, decision quality, etc. and human factor related measures like satisfaction with decision process, consensus, participation, cohesiveness, etc. While studying the effects of DA and DI, Schweiger and others (Schweiger, Sandberg, & Ragan, 1986) assessed group performance measures such as number of alternative solutions, number of assumptions, the validity and quality of assumptions, satisfaction with decision making process and agreement. Researchers have found the positive effects of memory on group performance (Satzinger et al., 1999). The widespread sharing of memory information improves creativity (Moorman & Miner, 1997) satisfaction with decision making (Weiser & Morrison, 1998).

We extend the research to combine both the effect of induced conflict and that of memory support and hypothesize the following with respect to the performance of the groups using organizational memory.

3.2 Hypotheses

In this research we focus on the measures of group performance that have been studied in prior research on conflict management and organizational memory. We focus on the level of evaluation, satisfaction of decision making process, decision quality, and group agreement. We present each hypothesis in two different levels. We compare the conflict induced groups with the consensus groups (i.e. non-conflict induced groups). We also compare the performance of DA and DI groups.

Tung & Heminger (1993) hypothesized that conflict groups will have deeper level of critical evaluation than consensus groups. The availability of memory support to groups will encourage members to explore different alternatives, especially the ones that are present in the memory. Consensus groups may not have the incentives to evaluate their assumptions very critically in comparison to conflict-induced groups. Similarly the level of critical evaluation of their own assumptions and recommendations will also be greater than that of the consensus-based sub-groups. Since DI groups develop counter-plans and question suppositions, they would have deeper levels of critical evaluation in comparison to DA groups. DA groups may not develop counter-plans but may merely try to question the assumptions of the other subgroups. Thus,

H1: Conflict-based groups with OM support will have deeper level of critical evaluation than consensus-based groups with OM support.

H1a: DI groups will have deeper level of critical evaluation than DA groups.

Conflict-based groups analyze greater number of alternatives, discuss in depth and question the underlying assumptions of memory information. By analyzing the memory information from diverse perspectives, the group members can develop a better understanding of the task environment and be confident of their own work. Members will hence perceive that their decision is of good quality. On the contrary, though the consensus-based groups rely on

memory information, they are unlikely to explore as many alternatives and may not delve deep enough into each alternative. Moreover, as the extent of analysis is more rigorous in DI, groups engaged in DI are expected to better develop better understanding and be more confident than the members of DA groups. Thus,

H2: Conflict-based groups with OM support will have higher level of perceived decision quality than consensus-based groups with OM support.

H2a: DI groups will have higher level of perceived decision quality than DA groups.

Induced conflict will give rise to high levels of task conflict. Group members are thus likely to spend a large amount of their time in attempting to resolve these conflicts. If members identify their assumptions and find support for these assumptions from the memory, conflict based groups' members are less likely to concur and agree on the final solution. More number of iterations and voting rounds are also likely to occur with conflict based groups (Valacich & Schwenk, 1995). Consensus based groups function in a predominantly congenial atmosphere and may not have much friction in their views. They would hence have higher levels of agreement than conflict-based groups. DA groups will have greater levels of agreement than DI groups, as DI sub-groups would tend to persist in their respective arguments especially if they find sufficient support from the OM.

Therefore,

H3: Conflict-based groups with OM support will have lower level of agreement than consensus-based groups with OM support.

H3a: DI groups will have lower levels of agreement than DA groups.

Schweiger et al. (1986) found that members of conflict-based groups have lower levels of satisfaction with the group than consensus based groups. Members of conflict based groups are engaged in a process that is time consuming and less harmonious in nature. This is expected to have adverse effects on their satisfaction with the decision making process. This effect will be very prominent for DI groups as the members have to develop counter plans besides critiquing the existing decisions. Also, the decision making process is more rigorous for the DI groups than the DA groups. Hence:

H4: Conflict-based groups with OM support will have lower level of satisfaction with decision process than consensus-based groups with OM support.

H4a: DI groups will have lower level of satisfaction with decision process than DA groups.

Level of evaluation	Satisfaction with decision process	Perceived decision quality	Agreement
C<DA, DI (H1)	C<DA,DI (H2)	C<DA, DI (H3)	C>DA,DI (H4)
DI>DA (H1a)	DI>DA (H2a)	DI>DA (H3s)	DI<DA (H4a)
C : Consensus-based Groups; DA: Devil's Advocacy based groups; DI: Dialectical Inquiry based groups			

Table 1: Hypotheses

4. Conclusion

Although researchers propose various implementations of organizational memory using IT and advocate benefits of using OM, some doubt if the decisions based on memory information will be free from any "bias" or "groupthink" effect. In this paper, we propose an approach to address this problem by promoting conflict in the decision-making groups.

In order to validate the theoretical framework presented in this paper, we intend to conduct laboratory experiments. We plan to implement organizational memory in a groupware supported decision making environment and engage consensus, DA and DI groups in the decision making exercise. Schweiger et al. (1986) have suggested detailed methodologies to introduce Devil's Advocacy and Dialectical Inquiry in conflict-based face-to-face groups. We propose to follow a similar methodology with computer-supported groups.

Our research exercise can thus be expected to enhance understanding of conflict and memory in organizational groups. It attempts to make a contribution to IS research by integrating OM and DA/DI. Our results will hence have implications for practitioners who can consciously use conflict-inducing mechanisms in decision-making groups that use knowledge gleaned from historical data. Researchers can extend this by studying appropriateness of using 'conflict' with OM in different types of organizational decisions.

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