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# Different paths to consensus? The impact of need for closure on model-supported group conflict management

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ABSTRACT

Empirical evidence on how cognitive factors impact the effectiveness of model-supported group decision making is lacking. This study reports on an experiment on the effects of need for closure, defined as a desire for definite knowledge on some issue and the eschewal of ambiguity. The study was conducted with over 40 postgraduate student groups. A quantitative analysis shows that compared to groups low in need for closure, groups high in need for closure experienced less conflict when using Value-Focused Thinking to make a budget allocation decision. Furthermore, low need for closure groups used the model to surface conflict and engaged in open discussions to come to an agreement. By contrast, high need for closure groups suppressed conflict and used the model to put boundaries on the discussion. Interestingly, both groups achieve similar levels of consensus, and high need for closure groups are more satisfied than low need for closure groups. A qualitative analysis of a subset of groups reveals that in high need for closure groups only a few participants control the model building process, and final decisions are not based on the model but on simpler tools. The findings highlight the need to account for the effects of cognitive factors when designing and deploying model-based support for practical interventions.



## 1. Introduction

Group decision making is a common practice in organisations today. The need for group decision making arises because a single individual's perspective, knowledge, or information processing capacity is too limited to cope with the organisational challenges brought about by the fast changing and interconnected world of the 21st century. For a group decision making process to be effective, group members should be able to surface, share and transform their different perspectives about the decision problem being considered. This can be challenging, but there is a wide variety of model-based group approaches developed within the operational research and systems fields to support this process (Morton, Ackermann, & Belton, 2003). Located mainly within the European soft OR tradition, these approaches share a focus on supporting negotiation within the group, using visual models and 'on-the-spot' model-based analysis to enable group members to surface their different perspectives, resolve their differences, and achieve a negotiated agreement about the way forward (Ackermann, 2012; Franco & Montibeller, 2010; Mingers, 2011). Illustrative examples of well-established model-based support approaches include Cognitive Mapping and SODA (Ackermann & Eden, 2010; Eden, 1988), Strategic Choice Approach (Friend & Hickling, 2005), Value-Focused Thinking (Keeney, 1996), Decision Conferencing (Phillips, 2007) and Group Model Building (Richardson & Andersen, 1995; Vennix, 1996, 1999).

To date, empirical research on model-supported group decision making has typically examined model-based interventions as complex global phenomena, mainly through case studies or action research methodologies (Eden, 1995; Franco & Montibeller, 2010). While such a research focus has produced useful insights (e.g. Franco & Lord, 2011; Rouwette, Korzilius, Vennix, & Jacobs, 2011; Schilling, Oeser, & Schaub, 2007; Shaw, Ackermann, & Eden, 2003; White, 2009), scant attention has been paid to examining contingency factors other than the organisational context within which the group is located (e.g. Franco, 2009; Montibeller, Franco, Lord, & Iglesias, 2009). In particular, there is little understanding of how cognitive factors influence the effectiveness of model-supported group decision making. In line with recent calls for developing the behavioural agenda within OR in this journal (Hamalainen, Luoma, & Saarinen, 2013), our paper contributes to a developing body of work concerned with the cognitive dimension of model use within groups (e.g. Ackermann & Eden, 2011; Franco & Meadows, 2007; Rouwette et al., 2011). Specifically, we explore the potential impact of group members' differences in need for closure (Kruglanski & Webster, 1996; Kruglanski, Pierro, Mannetti, & De Grada, 2006) on the effectiveness of model-supported

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group processes, with particular emphasis on conflict management processes. Our study intends to increase the understanding of the role of cognition in model-based interaction, and shed light onto the possible ways in which group members approach a model-supported decision task.

In the remainder of this paper we discuss the nature of model-supported group decision making from a conflict management perspective, introduce the need for closure construct and our research questions, discuss the results and limitations of our analysis, and offer some conclusions and future research directions.

## 2. Group decision making, conflict management and model-based support

Group decision making involves purposefully bringing together a group of individuals whose knowledge, expertise or interests are considered relevant to the decision context under consideration. The effectiveness of group decision-making is contingent upon the group's ability to: (1) surface and share their knowledge and initial interpretations of the key issues constituting the decision context; and, (2) identify commonalities in views, form a consolidated perspective of the issues or options, and work out a resolution that takes various positions into account and is both desirable and feasible (Eden & Ackermann, 2010). The first condition is needed to deter the group from falling into potential traps associated with groupthink – namely, conformity to group values and ethics leading, among others, to the suppression of deviant opinions (Janis, 1972) – and 'type III error' – namely, solving the wrong problem (Mitroff & Ernshoff, 1974). The second condition reduces the chances of a never-ending increase in views and interpretations that are likely to lead to information overload.

These two conditions have been associated with what is known as the differentiation and integration phases of group decision making, respectively (Folger, Poole, & Stutman, 1996). If either phase of differentiation or integration gets truncated or ineffectively managed, a less satisfactory outcome is likely to follow. To take advantage of the benefits of effective differentiation and integration groups must be able to manage conflict successfully. Conflict arises because group members are likely to have different opinions regarding the issues framing the decision they face, and on the direction to take. Furthermore, the existence of social pressures and power differences within the group will influence members' exchanges and analysis of the decision context (Eden & Ackermann, 2010). Consequently, groups engaged in decision making are likely to experience various levels of conflict and how they manage it determines to a great extent their effectiveness.

The literature describes different patterns of conflict management, each differing in their degree of 'confrontiveness', or the ability of groups to surface conflict manifest in their competing perspectives and deal with their differences constructively (De Dreu & Weingart, 2003; De Wit, Greer, & Jehn, 2012; Folger et al., 1996). The least confrontive strategy is to avoid the conflict or ignore it altogether. In this case group members never surface their differences and maintain a false consensus where some issues are never raised and some interests are not satisfied. Next on the scale is to surface the conflict, but resolution entails one particular position prevailing at the expense of others (i.e. a 'win–lose' approach). This is confrontive in the sense that group members acknowledge the presence of the conflict. However, they do not fully confront their differences if they force one party to accept a solution contrary to their initial preferences. Finally, full confrontation means that the group acknowledges the conflict and tries for a solution acceptable to all members.

Some guidelines for effective conflict management are suggested by the literature. These include creating a cooperative climate (Alper, Tjosvold, & Law, 2000), focussing on the problem rather than on people (Fisher & Ury, 1991), and considering a range of options before converging on a specific solution (Nutt, 2002, 2008). One particular approach specifically designed to help groups manage conflict through effective negotiation is model-based group support (Morton et al., 2003). Developed within the operational research and systems fields, and in contrast to technology-driven forms of support such as computer-supported systems (DeSanctis & Gallupe, 1987; Jessop & Valacich, 1993), model-based support facilitates differentiation of views and positions by providing a medium and a set of procedures for group interaction. The medium is the model that provides group members with a shareable and easily recognised artefact around which they can interact; the set of procedures comprises rules for collating and coding group members' views, and structured group processes designed to steer members away from behaviours that would inhibit effective group participation. The different model-based support approaches are most easily distinguished on the basis of the medium (type of model) they use. For example, Strategic Options Development and Analysis (Ackermann & Eden, 2010) uses means-ends networks of argumentation; Soft Systems Methodology (Checkland & Poulter, 2006) relies upon building rich pictures of the problem situation and models of a purposeful 'activity' system; the Strategic Choice Approach (Friend & Hickling, 2005) works with decision graphs; and, Group Model Building captures the structure of a problem in the form of a causal loop diagram or stock and flow model (Vennix, 1996). Procedures for group interaction are similar across approaches (Franco & Montibeller, 2010; Phillips & Phillips, 1993).

In the differentiation phase, these processes may include brainstorming or one of its variants. Model-based support is also designed to enable the integration of different views. Model-based interaction and analysis is intended to encourage open discussion regarding different interpretations of cause-and-effect relations, which helps group members appreciate the assumptions and beliefs of others and reflect on their own understanding of the decision context. Model-based interaction and analysis is thus the basis upon which the group is able to build and test alternative interpretations of the decision context, which in turn serves to negotiate shared meanings and common interests. Additionally, procedures used in model-based support steer groups away from negative behaviours such as suppressing differences in viewpoints, one side giving in, or a few group members covertly manipulating others into submission. We posit that effective conflict management is facilitated via model-based support because model-based interaction and analysis force members to acknowledge the conflict that results from having different interpretations and interests, and encourage them to openly discuss their differences so that a negotiated agreement can be reached. In others words, model-based support enables the high level of confrontiveness that is required to manage conflict effectively (Folger et al., 1996).

In the next section, we review group composition from a cognitive perspective and introduce 'need for closure' (Kruglanski & Webster, 1996; Kruglanski et al., 2006) as a relevant contingency factor for the study of model-supported group decision making. We then articulate research questions concerning the potential implications of a heightened need for closure for the effectiveness of model-supported conflict management processes and outcomes.

## 3. Group composition, need for closure and model-supported conflict management

Along with group size (Hare, 1981; Thomas & Fink, 1963) and stage of development (Gersick, 1988, 1989; Watson, Sharp, & Michaelsen, 1991), group composition is recognised as a key factor in explaining the benefits and dangers of group decisions. Research on group composition has considered a number of demographical and organisational dimensions (e.g. Jackson, Joshi, & Erhardt, 2003; Williams & O'Reilly, 1998), generally reporting that group heterogeneity increases the quality of decision making provided that group

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