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Organizational Behavior and Human Decision Processes 96 (2005) 119–129
ORGANIZATIONAL BEHAVIOR AND HUMAN DECISION PROCESSES
www.elsevier.com/locate/obhdp

Collective efficacy and vigilant problem solving in group decision making: A non-linear model ☆

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Received 30 December 2002

Abstract

This research explores the relationship between collective efficacy and aspects of analytic or vigilant problem solving (Janis, 1989) in the context of group decision making. We hypothesized that vigilant problem solving would be most evident under conditions of relatively moderate collective efficacy, as opposed to either very high or very low collective efficacy. We investigated this hypothesis with groups of business students who participated in a complex business strategy simulation. Results show a significant curvilinear relationship between collective efficacy and vigilant problem solving, and a significant linear relationship between vigilant problem solving and decision outcomes. There is also evidence that vigilant problem solving mediates the relationship between collective efficacy and decision outcomes. Implications for theory, managerial practice, and directions for future research are discussed.

Keywords: Collective efficacy; Group processes; Group decision making; Vigilant problem solving; Groupthink; Group performance

Introduction

Under what conditions, and for what reasons, do groups make decisions about important matters in ways that might significantly increase the chances of success? A related question asks why a group might use effective decision making procedures in some circumstances but not others. These questions are becoming increasingly important in light of a growing body of evidence that links the processes by which crucial decisions are taken with the eventual outcomes (e.g., Dean & Sharfman, 1996; Eisenhardt, 1989; Herek, Janis, & Huth, 1987; Peterson, Owens, Tetlock, Fan, & Martorana, 1998).

Effective decision making procedures, in short, may result in decisions that are more likely to achieve intended outcomes. Haphazard procedures, in contrast, could be more likely to lead to outcomes that will be regarded as unsuccessful. Although some scholars disagree (e.g., Starbuck, 1985), and the nature of the link between decision processes and outcomes has yet to be definitively proven, the success of crucial decisions increasingly appears to be influenced by the processes managers use to make them (Dean & Sharfman, 1996; Eisenhardt & Zbaracki, 1992).

In this research, we explore the relationship between collective efficacy and the type and quality of procedures used for making important group choices. Whyte (1998), for example, suggested that bloated perceptions of collective efficacy are possible antecedents of a failure to use high quality procedures in managerial decision making. Efficacy perceptions refer not to actual capability, but to group members' beliefs about their capacity to successfully perform some task (Bandura, 1997). Research on

☆ We thank Martin Evans, John Oesch, and Brian Golden for their helpful comments on an earlier draft of this paper. We also thank Pino Audia for providing the simulation used in this research.
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doi:10.1016/j.obhdp.2005.01.002

efficacy perceptions usually indicates that higher levels of efficacy lead to higher performance (Bandura, 1997). High levels of efficacy, however, may also lead to outcomes such as escalating commitment to a losing course of action (Whyte, Saks, & Hook, 1997) and strategic persistence (Audia, Locke, & Smith, 2000).

Groups make most of the important decisions in organizations (Cohen & Bailey, 1997; Donaldson & Lorsch, 1983), yet little empirical work has examined how perceptions of collective efficacy influence either sources of error in judgment or the processes of group decision making (Peterson & Behfar, 2003). To explore the role of collective efficacy as a potential determinant of analytic or vigilant problem solving in group decision making, we manipulated collective efficacy and assessed the effects on decision making processes and outcomes in the context of a business strategy simulation.

Analytic or vigilant problem solving

A testable assumption underlying this research is that decision processes are related to choices, and ultimately outcomes (Dean & Sharfman, 1996). Although environmental and other factors will also influence outcomes, the plausibility of a link between decision processes and outcomes implies the importance of understanding those conditions that militate towards reliance on effective decision making procedures.

A major issue in examining the impact of efficacy perceptions on the quality of decision processes is the selection of constructs used to represent those processes. We chose the construct of procedural rationality, which has played a key role in the decision making literature (e.g., Allison, 1971; Cyert & March, 1963; Dean & Sharfman, 1996; Eisenhardt & Bourgeois, 1988; Eisenhardt & Zbaracki, 1992).

We adopt a traditional definition of the term procedural rationality, which refers generally to reliance on decision making processes that reflect a problem solving approach and involve the gathering and analysis of relevant information in making choices (Dean & Sharfman, 1993; Simon, 1976). Procedural rationality might be associated with decision effectiveness for at least two primary reasons. First, decisions that reflect procedural rationality in organizational contexts should generally be made in the service of dominant and legitimate goals, if only because the effort of gathering and analyzing information would not otherwise be undertaken (Langely, 1989). Second, procedural rationality should allow decision makers to improve performance because more information and sound analysis result in a fuller view of the options, trade offs, environmental conditions, and consequences of alternative choices of action (Dean & Sharfman, 1996).

Simon (1976), in an influential account of how successful executives make decisions, described several processes that executives engage in when approaching the task of decision making in a sensible way. According to Simon, competent executives attempting to make good decisions are not capable of an objectively rational approach and do not therefore conform to the requirements of a normative model. They do nonetheless engage in a form of analytic problem solving that reflects attention to key tasks in the decision making process.

According to Janis (1989), analytic or vigilant problem solving is defined as, and occurs when, decision makers work "to the best of their limited abilities, within the confines of available organizational resources, to exercise all the caution they can to avoid mistakes in the essential tasks of information search, deliberation, and planning" (p. 29). The main facets of vigilant problem solving (Janis, 1982, 1989; Janis & Mann, 1977), which need not be sequential and may be iterative, consist of the following:

- Identifying objectives to be achieved by the decision and specifying the major requirements of a successful choice.
- Generating a comprehensive list of well-developed alternatives.
- Searching widely for relevant information with which to determine the quality of the alternatives.
- Engaging in the unbiased and accurate processing of information relevant to the assessment of the alternatives.
- Reconsidering and re-examining all the pros and cons of the alternatives.
- Recognizing, evaluating, and adjusting to more desirable levels the costs, benefits, and risks of the preferred choice.
- Developing plans to implement the decision, monitor the results, and react in the event that known risks become a reality.

There may not be agreement with all the details regarding effective processes described above, but there is a degree of consensus about the virtues of using a problem solving approach in crucial decision making (e.g., Abelson & Levi, 1985; Donaldson & Lorsch, 1983; Eisenhardt, Kahwajy, & Bourgeois, 1997; Kahneman, Slovic, & Tversky, 1982; Simon, 1976). This approach more generally involves identifying the problem, potential solutions, relevant information, and then evaluating and selecting the options. This consensus exists despite the acknowledgment that less analytical approaches to decision making such as satisficing (Simon, 1976) or incrementalism (Lindblom & Braybrooke, 1970) are often used to make important choices, and the caveat that the relationship between decision processes and effectiveness could be more clearly established.

The present research relies to a large degree on certain features of Janis's vigilant problem solving model as a