

**Structured Conflict
Approaches used in
Strategic Decision Making:
from Mason's Initial Study
to Virtual Teams**

Other titles in Foundations and Trends® in Information Systems

Longitudinal Author Cocitation Mapping: The Changing Structure of Decision Support Systems Research (1969 - 2012)

Sean Eom

ISBN: 978-1-68083-120-7

Pondering the Fault Lines of Anywhere Working (Telework, Telecommuting): A Literature Review

Yvette Blount

ISBN: 978-1-60198-876-8

Application of Dual-process Theory to Information Systems: Current and Future Research Directions

Stephanie Watts

ISBN: 978-1-68083-058-3

E-business Value Creation from a Resource-Based Perspective: A Review of the Last Decade of Empirical Research

Orit Raphaeli, Sigal Berman and Lior Fink

ISBN: 978-1-60198-878-2

Structured Conflict Approaches used in Strategic Decision Making: from Mason's Initial Study to Virtual Teams

Jerry Fjermestad

Martin Tuchman School of Management
New Jersey Institute of Technology, USA
jerry@njit.edu

now

the essence of knowledge

Boston — Delft

Foundations and Trends® in Information Systems

Published, sold and distributed by:

now Publishers Inc.
PO Box 1024
Hanover, MA 02339
United States
Tel. +1-781-985-4510
www.nowpublishers.com
sales@nowpublishers.com

Outside North America:

now Publishers Inc.
PO Box 179
2600 AD Delft
The Netherlands
Tel. +31-6-51115274

The preferred citation for this publication is

J. Fjermestad. *Structured Conflict Approaches used in Strategic Decision Making: from Mason's Initial Study to Virtual Teams*. Foundations and Trends® in Information Systems, vol. 3, no. 3-4, pp. 234–400, 2019.

ISBN: 978-1-68083-617-2

© 2019 J. Fjermestad

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, photocopying, recording or otherwise, without prior written permission of the publishers.

Photocopying. In the USA: This journal is registered at the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923. Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by now Publishers Inc for users registered with the Copyright Clearance Center (CCC). The 'services' for users can be found on the internet at: www.copyright.com

For those organizations that have been granted a photocopy license, a separate system of payment has been arranged. Authorization does not extend to other kinds of copying, such as that for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. In the rest of the world: Permission to photocopy must be obtained from the copyright owner. Please apply to now Publishers Inc., PO Box 1024, Hanover, MA 02339, USA; Tel. +1 781 871 0245; www.nowpublishers.com; sales@nowpublishers.com

now Publishers Inc. has an exclusive license to publish this material worldwide. Permission to use this content must be obtained from the copyright license holder. Please apply to now Publishers, PO Box 179, 2600 AD Delft, The Netherlands, www.nowpublishers.com; e-mail: sales@nowpublishers.com

Foundations and Trends® in Information Systems
Volume 3, Issue 3-4, 2019
Editorial Board

Editor-in-Chief

Joey George
Iowa State University
United States

Honorary Editors

Izak Benbasat
University of British Columbia

Alan R. Dennis
Kelley School of Business, Indiana University

Jacqueline Rees Ulmer
Iowa State University

Veda Storey
Georgia State University

Detmar Straub
Georgia State University

Hugh Watson
University of Georgia

Editors

Alan Hevner
University of South Florida

David Paradice
Auburn University

Carol Saunders
University of Central Florida

Editorial Scope

Topics

Foundations and Trends® in Information Systems publishes survey and tutorial articles in the following topics:

- IS and Individuals
- IS and Groups
- IS and Organizations
- IS and Industries
- IS and Society
- IS Development
- IS Economics
- IS Management
- IS Research Methods

Information for Librarians

Foundations and Trends® in Information Systems, 2019, Volume 3, 4 issues. ISSN paper version 2331-1231. ISSN online version 2331-124X. Also available as a combined paper and online subscription.

Contents

1	Introduction	3
2	Background	6
3	Structured Conflict	7
3.1	Introduction to Structured Conflict	7
3.2	Expert Approach	7
3.3	Control and Consensus Approaches	8
3.4	Structured Conflict Approaches	8
4	The Philosophical and Empirical Differences: The Strategic Planning Debate and Management/Leadership	18
4.1	The Passive Approach Operationalization	20
4.2	The Active Approach Operationalization	21
4.3	Management and Leader Roles	21
5	Structured Conflict: Devil's Advocacy and Dialectical Inquiry Studies	23
5.1	Active Participation Case and Field Studies	24
5.2	Secondary Analysis and Simulation	26
5.3	Multiple-Cue Probability Learning Paradigm Experiments (MCPL)	29

5.4	Passive Participation Experimental Studies	37
5.5	Active Participation Experimental Studies With and Without Technology	46
5.6	Dissent Studies	69
6	An Integrative Analysis of the Structured Conflict Literature	74
6.1	Assessment from Schwenk's Meta-Analysis (Schwenk, 1990a)	74
6.2	Assessment and Evaluation	76
6.3	The Debate between the Philosophical and Empirical Schools	93
6.4	Questions That Need to be Addressed	95
7	Leadership	97
7.1	The Brunswik Lens Communications Model for Management and Leadership	98
7.2	The Case for Leadership	100
7.3	Questions That Need to be Addressed	109
8	Virtual Teams and Structured Conflict	110
8.1	Information Communication Technology and Strategic Decision-Making	110
8.2	Virtual Teams: Defined	112
8.3	Virtual Team Research and Structured Conflict	113
8.4	Questions That Need to be Addressed	117
9	Summary and Conclusion	119
9.1	Future Research	120
	Acknowledgements	123
	Appendices	124
	References	154

Structured Conflict Approaches used in Strategic Decision Making: from Mason's Initial Study to Virtual Teams

Jerry Fjermestad

Martin Tuchman School of Management, New Jersey Institute of Technology, USA; jerry@njit.edu

ABSTRACT

Prior structured conflict research has not fully addressed the strategic decision making approaches. To address this gap, the objective of this monograph is to organize, summarize, categorize, and analyze the structured conflict decision approaches. It has been fifty years since Mason (1969) published his famous study on dialectical inquiry. Since then there have been 52 studies investigating the performance of these structured conflict decision techniques. The organizational case and field studies support the intention that dialectical inquire is effective in strategic decision making. The experimental studies favor the devil's advocacy decision aid. There are moderating effects based on the type of participation, active or passive. Technology can play a role in strategic decision making, but there have not been an adequate number of studies to make any generalizations with structured conflict. Studies with virtual teams need to be developed and explored. One factor which appears to be missing in the research literature is leadership. Management,

leadership, is clearly involved in the case and field studies, but not in the experimental studies. This comprehensive study of structured conflict research is designed to improve the essence of strategic decision making with structured conflict decision aids.

1

Introduction

An organizational business strategy is a statement about how the business operates. It is based on assumptions, it has guidelines, constraints, and more, all leading to a purpose with goals. There are in most cases, alternatives which leads to a planning process culminating in a strategy. How does an organization develop the best strategy? According to Emshoff and Mitroff (1978) these strategies are normally developed through active participation from the organization's top-level executives. There are many approaches to this. This monograph will focus on a strategic planning processes which uses structured conflict to aid in eliciting and exposing management's underlying assumptions and how to stimulate management to adopt a broader view of the planning problem (Mason, 1969).

This research has been ongoing for 50 years mostly with strategic planning groups working in a face-to-face environment. These groups are mostly students in the experimental studies and practicing managers in the case and field studies. Increasingly, managers and professional information workers are communicating via the internet and virtual private networks, using groupware for synchronous multi-media "meetings" and virtual (text-based, recorded meetings, anytime/anywhere)

discussions and project management. These meetings are used to support distributed task forces and project teams within existing organizations, and to create temporary or permanent virtual teams to take advantage of new opportunities, for example in new product development (Schmidt *et al.*, 2001) and strategic decision making (Powell *et al.*, 2004). What kinds of structures, tools, and interaction processes work best with these new communication media? We know that the communication medium does affect process and outcomes of group interactions (Daft and Lengel, 1986; Hiltz *et al.*, 1989; Priem *et al.*, 1995; Rice and Associates, 1984). It is very likely that group processes that have proven effective in face-to-face decision-making and project meetings will not have the same impacts in computer-mediated meetings.

Previous research on face-to-face groups indicates that groups who try to reach consensus on a task-based decision without following any specific procedures often have impaired outcomes (process losses) relative to the efforts of others following specific procedures (Steiner, 1972). These include issues resulting from unequal participation, a failure to generate and explore alternative solutions before reaching a final choice, and a lack of critical examination of ideas.

Group interaction processes such as brainstorming, Nominal Group Technique, Delphi, and structured conflict procedures namely, dialectical inquiry (DI) and devil's advocacy (DA) have been shown to decrease process losses and improve the outcomes of face-to-face decision-making teams (Nunamaker *et al.*, 1991; Schweiger *et al.*, 1986, 1989). For example, Mason and Mitroff (1981), Mitroff *et al.* (1979), and Schweiger *et al.* (1986), have demonstrated that DI and DA structured conflict approaches can improve decision quality in organizations.

Unfortunately, researchers have not confidently generalized these findings from studies dealing with structured conflict in face-to-face teams to teams supported by computer-based group support systems (GSS) technology. This limitation is especially notable with respect to distributed or virtual (different time/different place) computer-mediated-communication (CMC) environments. This is important given that organizations are migrating from traditional face-to-face communication and decision making to electronically mediated interactions, such as email and groupware (Powell *et al.*, 2004). In addition, businesses

are becoming more globally oriented, have flatter hierarchies, and are utilizing more cross functional teams, all of which are placing tremendous demands on decision makers' ability to coordinate dispersed activities and improve the effectiveness of the decisions (Chidambaram and Jones, 1993). The questions for decision makers are:

1. Is dialectical inquiry (DI) more effective than devil's advocacy (DA) in strategic decision-making tasks in face-to-face teams?
2. Are conflict generating techniques (DI and DA) more effective than expert or consensus processes in face-to-face teams?
3. Is dialectical inquiry (DI) more effective than devil's advocacy (DA) in strategic decision-making tasks in virtual teams?
4. Are conflict generating techniques (DI and DA) more effective than expert or consensus processes in virtual teams?
5. Are there any factors that contribute to the differences between case and field, and the experimental studies?
6. Is there a role that management, leadership, projects in structured conflict strategic decision-making?

The objective of the review is to examine these issues of whether structured conflict procedures are superior to expert or consensus-oriented procedures in face-to-face and virtual teams working on strategic decision-making tasks. The review begins with a brief background in Section 2, then Section 3 discusses structured conflict, followed by philosophical and empirical debate in Section 4. Section 5 examines structured conflict: devil's advocacy and dialectical inquiry studies in both case and field, and experimental studies. Section 6 presents an integrative analysis of the structured conflict studies. Section 7 focuses on leadership. Section 8 addresses structured conflict and leadership in virtual teams. Section 9 is the conclusion and addresses the issues of this review and discusses potential future studies.

References

- Ackoff, R. L. (1958). "Towards a Behavioral Theory of Communication". *Management Science*. 4(3): 218–234.
- Adams, J. L. (1976). *Conceptual Blockbusting: A Pleasurable Guide to Better Problem Solving*. NYC: Norton & Co.
- Amason, A. C. (1996). "Distinguishing the Effects of Functional and Dysfunctional Conflict on Strategic Decision Making: Resolving a Paradox for Top Management Teams". *Academy of Management Journal*. 39(1): 123–148.
- Amason, A. C., K. R. Thompson, W. A. Hochwarter, and A. W. Harrison (1995). "Conflict: An Important Dimension in Successful Management Teams". *Organizational Dynamics*. 23(20): 20–35.
- Anderson, P. A. (1983). "Decision Making by Objection and the Cuban Missile Crisis". *Administrative Science Quarterly*. 28: 201–222.
- Avolio, B. J., S. Kahai, and G. F. Dodge (2001). "E-Leadership: Implications for Theory, Research, and Practice". *Leadership Quarterly*. 11(4): 615–668.
- Berniker, E. and D. E. McNabb (2006). "Dialectical Inquiry: A Structured Qualitative Research Method". *The Qualitative Report*. 11(4): 643–664.
- Bhuiyan, N. (2011). "A Framework for Successful New Product Development". *Journal of Industrial Engineering and Management*. 4(4): 746–770.

- Bobbit, R. H. and J. D. Ford (1980). "Decision Maker Choice as a Determinant of Organizational Structure". *Administrative Science Quarterly*. 15: 13–24.
- Brehmer, B. (1976). "Social Judgment Theory and the Analysis of Interpersonal Conflict". *Psychological Bulletin*. 83: 985–1003.
- Brunswik, E. (1955). "Representative Design and Probabilistic Theory in a Functional Psychology". *Psychology Review*. 62: 193–217.
- Chanin, M. N. (1983). "An empirical examination of conflict and non-conflicted oriented problem solving techniques". In: *Developments in Business Simulation and Experimental Exercises*. 10: 152–156.
- Chanin, M. N. and H. J. Shapiro (1979). "Towards a dialectical theory of strategic planning". *Proceedings of the American Institute for Decision Sciences Meeting*. 1: 232–234.
- Chanin, M. N. and H. J. Shapiro (1982). "Comparison of Problem-Solving Techniques: A Free Simulation Approach". *Developments in Business Simulation & Experimental Exercises*. 9: 236–239.
- Chanin, M. N. and H. J. Shapiro (1984). "Dialectical and Devil's Advocacy Problem-Solving". *Asia Pacific Journal of Management*: 159–170. May.
- Chanin, M. N. and H. J. Shapiro (1985). "Dialectical Inquiry in Strategic Planning: Extending the Boundaries". *Academy of Management Review*. 10(4): 663–675.
- Chanin, M., V. Wulwick, and H. H. Shapiro (1984). "A study of comparative effectiveness of problem-solving technologies". In: *Developments in Business Simulation and Experiential Exercises*. Ed. by D. Currie and J. Gentry. Normal, IL: Association for Business Simulation and Experiential Learning. 29–34.
- Chidambaram, L. (1989). *An empirical investigation of the impact of computer support on group development and decision-making performance*. PhD Dissertation. Indiana University.
- Chidambaram, L. and B. Jones (1993). "Impact of Communication Medium and Computer Support on Group Perceptions and Performance: A Comparison of Face-to-Face and Dispersed Meetings". *Management Information Systems Quarterly*. 17(4): 465–491.

- Churchman, C. W. (1971). *The Design of Inquiring Systems: Basic Concepts of Systems and Organizations*. New York: Basic Books, Inc.
- Cosier, R. A. (1978). "The Effects of Three Potential Aids for Making Strategic Decisions on Prediction Accuracy". *Organizational Behavior and Human Performance*. 22: 295–306.
- Cosier, R. A. (1980). "Inquiry Method, Goal Difficulty, and Context Effects on Performance". *Decision Sciences*. 11: 1–16.
- Cosier, R. A. (1981). "Dialectical Inquiry in Strategic Planning: A Case of Premature Acceptance?" *Academy of Management Review*. 6(4): 643–648.
- Cosier, R. A. (1983). "Approaches for Experimental Examination of the Dialectic". *Strategic Management Journal*. 4: 79–84.
- Cosier, R. A. and J. C. Aplin (1980). "A Critical View of Dialectical Inquiry as a Tool in Strategic Planning". *Strategic Management Journal*. 1: 342–356.
- Cosier, R. A. and D. A. Dalton (1982). "Advice for Promoting Creative Thought: An Analysis of the Dialectic". *Journal of Creative Behavior*. 16(3): 176–184.
- Cosier, R. A. and P. L. Rechner (1985). "Inquiry Method Effects on Performance in a Simulated Business Environment". *Organizational Behavior and Human Decision Making*. 36: 79–85.
- Cosier, R. A. and G. L. Rose (1977). "Cognitive Conflict Effects on Task Performance". *Organizational Behavior and Human Performance*. 19: 378–391.
- Cosier, R. A., T. L. Ruble, and J. C. Aplin (1978). "An Evaluation of the Effectiveness of Dialectical Inquiry Systems". *Management Science*. 24(14): 1483–1490.
- Daft, R. L. and R. H. Lengel (1986). "Organizational Information Requirements, Media Richness and Structural Design". *Management Science*. 32(5): 554–571.
- Daft, R. L. and K. E. Weick (1984). "Toward a Model of Organizations as Interpretation Systems". *Academy of Management Review*. 9(2): 284–295.

- De Dreu, C. K. and L. R. Weingart (2003). "Task Versus Relationship Conflict. Team performance, and Team Member Satisfaction: A Meta-Analysis". *Journal of Applied Psychology*. 88(4): 741–749.
- De Geus, J., F. Mulder, B. Zuurke, and M. M. Levine (1982). "A Replication of the Nelson and Mitroff Experiment in Teaching "bothsides" thinking". *Journal of the Association for Information Science and Technology*. 33(2): 76–81.
- Dean, J. W. and M. P. Sharfman (1996). "Does Decision Process Matter? A Study of Strategic Decision Making Effectiveness". *Academy of Management Journal*. 39(2): 355–398.
- DeChurch, L. A. and M. A. Marks (2001). "Maximizing the Benefits of Task Conflict: The Role of Conflict Management". *International Journal of Conflict Management*. 12(10): 4–22.
- DeSanctis, G. and M. S. Poole (1994). "Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory". *Organization Science*. 5: 121–147.
- Edmondson, A., M. Roberts, and M. Watkins (2003). "A Dynamic Model of Top Management Team's Effectiveness: Managing Unstructured Task Streams". *The Leadership Quarterly*. 14(3): 297–325.
- Emshoff, J. E. and I. I. Mitroff (1978). "Improving the Effectiveness of Corporate Planning". *Business Horizons*: 49–60. October.
- Emshoff, J. R. and A. Finnel (1978). "Defining Corporate Strategy: A Case Study using Strategic Assumptions Analysis". *Sloan Management Review*. 20(3): 41–52.
- Fjermestad, J. (2004). "An Analysis of Communication Mode in Group Support Systems Research". *Decision Support Systems*. 37: 239–263.
- Fjermestad, J. (2005). "Virtual Group Strategic Decision Making Using Structured Conflict and Consensus Approaches". *International Journal of E-Collaboration*. 1(1): 43–62.
- Fjermestad, J. and S. R. Hiltz (1998/1999). "An Assessment of Group Support Systems Experimental Research: Methodology and Results". *Journal of Management Information Systems*. 15(3): 7–149.
- Fjermestad, J. and R. J. Ocker (2007). "Communication and Leadership Differences in Virtual Design Teams: Why Some Teams do Better Than Others". *Journal of the Brazilian Computer Society*. 3(13): 37–50.

- Gallupe, R. B., A. R. Dennis, W. H. Cooper, J. S. Valacich, L. M. Bastianutti, and J. F. Nunamaker (1992). "Electronic Brainstorming and Group Size". *Academy of Management Journal*. 35(2): 350–369.
- George, J. M. (1991). "State or Trait: Effects of Positive Mood on Prosocial Behaviors at Work". *Journal of Applied Psychology*. 76(2): 299–307.
- Greitemeyer, T., S. Schulz-Hardt, F. C. Brodbeck, and D. Frey (2006). "Information Sampling and Group Decision Making: The Effects of an Advocacy Decision Procedure and Task Experience". *Journal of Experimental Psychology: Applies*. 12(1): 31–42.
- Greitemeyer, T., S. Schulz-Hardt, and D. Frey (2009). "The Effects of Authentic and Contrived Dissent on Escalation of Commitment in Group Decision Making". *European Journal of Social Psychology*. 39: 639–647.
- Hall, J. (1971). "Decision, Decisions, Decisions". *Psychology Today*. 5: 51–54. 86, 88.
- Hammond, K. R. (1965). "New Directions in Research on Conflict Resolutions". *Journal of Social Issues*. 21: 44–66.
- Hiltz, S. R., K. Johnson, and M. Turoff (1986). "Experiments in Group Decision Making: Communication Process and Outcome in Face-to-Face Versus Computerized Conferences". *Human Communications Research*. 13(2): 225–252.
- Hiltz, S. R., M. Turoff, and K. Johnson (1989). "Experiments in Group Decision Making, 3: Disinhibition, Deindividuation, and Group Process in Pen Name and Real Name Computer Conferences". *Decision Support Systems*. 5: 217–232.
- Hogarth, R. M. (1980). *Judgment and Choice: The Psychology of Decision*. New York: Wiley Interscience.
- Huber, G. P. (1990). "A Theory of the Effects of Advanced Information Technologies on Organizational Design, Intelligence, and Decision Making". *Academy of Management Review*. 15(1): 47–71.
- Janis, I. L. and L. Mann (1977). *Decision Making: A Psychological Analysis of Conflict, Choice, and Commitment*. New York: Free Press.

- Jarupathirun, S. and F. Zahedi (2007). "Dialectic Decision Support Systems: System Design and Empirical Evaluation". *Decision Support Systems*. 43: 1533–1570.
- Jehn, K. A. (1995). "A Multimethod Examination of the Benefits and Detriments of Intragroup Conflict". *Administrative Science Quarterly*. 40: 256–282.
- Jehn, K. A. (1997). "A Qualitative Analysis of Conflict Types and Dimensions in Organizational Groups". *Administrative Science Quarterly*. 42: 530–557.
- Jelassi, M. T. and B. A. Beauclair (1987). "An Integrated Framework for Group Decision Support System Design". *Information and Management*. 13: 143–155.
- Kahai, S., J. J. Sosik, and B. J. Avolio (1997). "Effects of Leadership Style and Problem Structure on Work Group Process and Outcomes in an Electronic Meeting System Environment". *Personnel Psychology*. 50: 121–146.
- Katzenstein, G. (1996). "The Debate on Structured Debate: Toward a Unified Theory". *Organizational Behavior and Human Decision Processes*. 66(3): 316–332.
- Kayworth, T. and D. Leidner (2000). "The Global Virtual Manager: A Prescription for Success". *European Management Journal*. 18(2): 183–194.
- Kayworth, T. and D. Leidner (2001). "Leadership Effectiveness in Global Virtual Teams". *Journal of Management Information Systems*. 18(3): 7–40.
- Knight, D., C. L. Pearce, K. G. Smith, J. D. Olian, H. P. Sims, K. A. Smith, and P. Flood (1999). "TOP Management Team Diversity, Group Process, and Strategic Consensus". *Strategic Management Journal*. 20: 445–465.
- Korsgaard, M. A., D. M. Schweiger, and H. J. Sapienza (1995). "Building Commitment, Attachment, and Trust in Strategic Decision-Making teams: The Role of Procedural Justice". *Academy of Management Journal*. 38(3): 60–84.
- Lourenco, S. V. and J. C. Glidewell (1975). "A Dialectical Analysis of Organizational Conflict". *Administrative Science Quarterly*. 20: 489–508.

- MacDonald, A. P. (1970). "A Revised Scale for Ambiguity Tolerance: Reliability and Validity". *Psychological Reports*. 26: 791–798.
- Macy, G. and J. C. Neal (1995). "The Impact of Conflict-Generating Techniques on Student Reactions and Decision Quality". *Business Communication Quarterly*. 58(4): 39–45.
- Martins, L. L., L. L. Gilson, and M. T. Maynard (2004). "Virtual Teams: What Do We Know and Where Do We Go From Here?" *Journal of Management*. 30(6): 805–835.
- Mason, R. O. (1969). "A Dialectical Approach to Strategic Planning". *Management Science*. 15(8): B403–B414.
- Mason, R. O. and I. I. Mitroff (1973). "A Program for Research on Management Information Systems". *Management Science*. 18(6): 475–487.
- Mason, R. O. and I. I. Mitroff (1981). *Challenging Strategic Planning Assumptions*. New York: John Wiley.
- Mason, R., K. Leschly, A. Feinberg, and J. R. Smith (1982). "A Dialectical Approach to Research and Development Planning". *Policy Studies Journal*. 10(4): 652–653.
- McGrath, J. E. (1984). *Groups: Interaction and Performance*. Englewood Cliffs, NJ: Prentice-Hall.
- Mennecke, B. E. and J. S. Valacich (1998). "Information Is What You Make of It. The Influence of Group History and Computer Support on Information Sharing, Decision Quality, and Member Perceptions". *Journal of Management Information Systems*. 13: 173–197.
- Mintzberg, H., D. Raisinghani, and A. Theoret (1976). "The Structure of Unstructured Decision Processes". *Administrative Science Quarterly*. 21: 246–280.
- Mitroff, I. I. (1971). "A Communication Model of Dialectical Inquiring Systems A Strategy for Strategic Planning". *Management Science*. 17(10): B634–B648.
- Mitroff, I. I. (1974). "A Brunswik Lens Model of Dialectical Inquiring Systems". *Theory and Decision*. 5: 45–67.
- Mitroff, I. I. (1982). "Talking Past One's Colleagues in Matters of Policy". *Strategic Management Journal*. 13: 374–375.

- Mitroff, I. I., V. P. Barabba, R. H. Kilmann, and RH (1977). "The Application of Behavioral and Philosophic Technologies to Strategic Planning: A Case Study of a Large Federal Agency". *Management Science*. 24(1): 44–58.
- Mitroff, I. I. and F. Betz (1972). "Dialectical Decision Theory A Meta-Theory of Decision-Making". *Management Science*. 19(1): 11–24.
- Mitroff, I. I. and J. R. Emshoff (1979). "On Strategic Assumption-Making: A Dialectical Approach to Policy and Planning". *Academy of Management Review*. 4(1): 1–12.
- Mitroff, I. I., J. R. Emshoff, and R. H. Kilmann (1979). "Assumptional Analysis: A Methodology for Strategic Problem Solving". *Management Science*. 25(6): 583–593.
- Mitroff, I. I. and R. O. Mason (1981a). "The Metaphysics of Policy and Planning: A Reply to Cosier". *Academy of Management Review*. 6(4): 649–651.
- Mitroff, I. I. and R. O. Mason (1981b). *Creating A Dialectical Social Science: Concepts, Methods, and Models*, Boston, Ma: D. Reidel Publishing Co.
- Mitroff, I. I. and R. O. Mason (1980). "Structuring Ill-Structured Policy Issues: Further Explorations in a Methodology for Messy Problems". *Strategic Management Journal*. 1: 331–342.
- Mitroff, I. I., J. Nelson, and R. O. Mason (1974). "On Management Myth-Information Systems". *Management Sciences*. 21(4): 371–382.
- Mitroff, I. I. and M. Turoff (1975). "Philosophical and Methodological Foundations of Delphi". In: *The Delphi Method: Techniques and Applications*. Ed. by H. A. Linstone and M. Turoff. 1975. Reading, MA: Addison Wesley.
- Mitroff, I. I., J. Williams, and E. Rathswohl (1972). "Dialectical Inquiring Systems: A New Methodology for Information Science". *Journal of the American Society for Information Science*: 365–378. November–December.
- Molloy, S. and C. R. Schwenk (1995). "The Effects of Information Technology on Strategic Decision Making". *Journal of Management Studies*. 32(3): 283–311.

- Montoya-Weiss, M. M. and R. Calantone (1994). "Determinants of New Product Performance: A Review and Meta-Analysis". *Journal of Product Innovation Management*. 11: 397–417.
- Mortensen, M. and P. J. Hinds (2001). "Conflict and Shared Identity in Geographically Distributed Teams". *International Journal of Conflict Management*. 12(3): 212–238.
- Murrell, A. J., A. C. Stewart, and B. T. Engel (1993). "Consensus Versus Devil's Advocacy: The Influence of Decision Process and Task structure on Strategic Decision Making". *The Journal of Business Communication*. 30(4): 399–414.
- Neal, J. and L. Echternacht (1995). "The Effects of Structured Techniques on Group Decision Making in the Undergraduate Business Communication Classroom". In: *Paper Presented at the Annual Meeting of the American Educational Research Association*. April 18-22, 1995. San Francisco, CA.
- Nelson, J. A. and I. I. Mitroff (1974). "An Experiment in Dialectical Information Systems". *Journal of the American Society for Information Science*: 252–262. July-August.
- Nemeth, C. J., J. B. Connell, J. D. Rogers, and K. S. Brown (2001a). "Improving Decision Making by Means of Dissent". *Journal of Applied Social Psychology*. 31(10): 48–58.
- Nemeth, C. J. and J. L. Kwan (1985). "Originality of Word Associations as a Function of Majority vs. Minority Influence". *Social Psychology Quarterly*. 48(3): 277–282.
- Nemeth, C. J. and L. Wachtler (1983). "Creative Problem Solving as a Result of Majority vs Minority Influence". *European Journal of Social Psychology*. 13: 45–55.
- Nemeth, C., K. Brown, and J. Rogers (2001b). "Devil's Advocate Versus Authentic Dissent: Stimulating Quantity and Quality". *European Journal of Social Psychology*. 31: 707–720.
- Nemeth, C. and J. L. Kwan (1987). "Minority Influence, Divergent Thinking and Detection of Correct Solutions". *Journal of Applied Social Psychology*. 17(9): 789–799.

- Nemiroff, P. M., W. A. Pasmore, and D. L. Ford (1976). "The Effects of Two Normative Structural Interventions on Established and Ad Hoc Groups: Implications for Improving Decision Making Effectiveness". *Decision Sciences*. 7: 841–855.
- Nunamaker, J. F., A. R. Dennis, J. S. Valacich, D. R. Vogel, and J. F. George (1991). "Electronic Meeting Systems to Support Group-Work". *Communications of the ACM*. 34(7): 41–61.
- Nutt, P. C. (1984). "Types of Organizational Decision Processes". *Administrative Science Quarterly*. 29: 414–450.
- Ocker, R. J. and J. Fjermestad (2007). "Communication Differences in Virtual Design Teams: Finding from a Multi-Method Analysis of High and Low Performing Experimental Teams". *The Data Base for Advances in Information Systems*. 39(1): 51–67.
- Ocker, R. J., J. Fjermestad, S. R. Hiltz, and K. Johnson (1998). "Effects of Four Modes of Group Communication on the Outcomes of Software Requirements Determination". *Journal of Management Information Systems*. 15(1): 99–118.
- Ocker, R. J., S. R. Hiltz, M. Turoff, and J. Fjermestad (1995/1996). "The Effects of Distributed Group Support and Process Structuring on Software Requirements Development Teams: Results on Creativity and Quality". *Journal of Management Information Systems*. 12(3): 127–153.
- Phillips, L. D. (1988). "People centered group decision support". In: *Knowledge Based Management Support Systems*. Ed. by G. Doukidis, F. Land, and G. Miller. Ellis Horwood. 208–224.
- Piccoli, G., A. Powell, and B. Ives (2004). "Virtual Teams: Team Control Structure, Work Processes, and Team Effectiveness". *Information technology & People*. 17(4): 359–379.
- Pirola-Merlo, A., C. Hartel, L. Mann, and G. Hirst (2002). "How Leaders Influence the Impact of Affective Events on Team Climate and Performance in R&D Teams". *The Leadership Quarterly*. 13: 561–581.
- Powell, A., G. P. Piccoli, and B. Ives (2004). "Virtual Teams: A Review of Current Literature and Directions for Future Research". *The Data Base for Advances in Information Systems*. 35(1): 6–37.
- Power, D. J., M. J. Gannon, M. A. McGinnis, and D. A. Schweiger (1986). *Strategic Management Skills*. Reading, MA: Addison-Wesley.

- Priem, R. L., D. A. Harrison, and N. K. Muir (1995). "Structured Conflict and Consensus Outcomes in Group Decision Making". *Journal of Management*. 21(4): 691–710.
- Priem, R. L. and K. H. Price (1991). "Process and Outcome Expectations for the Dialectical Inquiry, Devil's Advocacy, and Consensus Techniques of Strategic Decision Making". *Group and Organizational Studies*. 16(20): 206–225.
- Putnam, L. L., G. T. Fairhurst, and S. Banghart (2016). "Contradictions, Dialectics, and Paradoxes in Organizations: A Constitutive Approach". *The Academy of Management Annals*. 10(1): 65–171.
- Quaddus, M. A., L. L. Tung, L. Chin, P. P. Seow, and G. C. Tan (1998). "Non-Networked Group Decision Support Systems: Effects of Devil's Advocacy and Dialectical Inquiry". In: *Proceedings of the Hawaii International Conference on System Science*.
- Rapport, L. and G. Cvetkovich (1970). "Effects of Reward Structure and Cognitive Differences in a Mixed-Motive Two-Person Conflict Situation". *American Journal of Psychology*. 83: 119–125.
- Rice, R. E. and Associates (1984). *The New Media*. Beverly Hills: CA: Sage Publications.
- Robertson, D. W. (2002). "A Comparison of Three Group Decision Making Strategies and Their Effects on the Group Decision Making Process". *A Dissertation, Virginia Polytechnic Institute and State University*.
- Saunders, C. S. and M. K. Ahuja (2006). "Are all Distributed Teams the Same? Differentiating Between Temporary and Ongoing Distributed Teams". *Small Group Research*. 37(6): 662–700.
- Schmidt, J. B., M. M. Montoya-Weiss, and A. P. Massey (2001). "New Product Development Decision-Making Effectiveness: Comparing Individuals, Face-to-Face Teams, and Virtual Teams". *Decision Sciences*. 32(4): 575–600.
- Schulz-Hardt, S., M. Jochims, and D. Frey (2002). "Productive Conflict in Group Decision Making: Genuine and Contrived Dissent as Strategies to Counteract Biased Information Seeking". *Organizational Behavior and Human Decision Processing*. 88(2): 563–586.

- Schweiger, D. M. and P. A. Finger (1984). "The Comparative Effectiveness of Dialectical Inquiry and Devil's Advocacy: The Impact of Task Biases on Pervious Research Findings". *Strategic Management Journal*. 5: 335–350.
- Schweiger, D. M. and W. R. Sandberg (1989). "The Utilization of Individual Capabilities in Group Approaches to Strategic Decision Making". *Strategic Management Journal*. 10: 31–43.
- Schweiger, D. M., W. R. Sandberg, and J. W. Ragan (1986). "Group Approaches for Improving Strategic Decision Making: A Comparative Analysis of Dialectical Inquiry, Devil's Advocacy, and Consensus". *Academy of Management Journal*. 29(1): 51–71.
- Schweiger, D. M., W. R. Sandberg, and P. L. Rechner (1989). "Experiential Effects of Dialectical Inquiry, Devil's Advocacy, and Consensus Approaches to Strategic Decision Making". *Academy of Management Journal*. 32(4): 745–772.
- Schwenk, C. R. (1990a). "Effects of Devil's Advocacy and Dialectical Inquiry on Decision Making: A Meta-Analysis". *Organizational Behavior and Human Decision Processes*. 47: 161–176.
- Schwenk, C. R. (1990b). "Conflict in Organizational Decision Making: An Exploratory Study of its Effects in For-Profit and Not-For-Profit Organizations". *Management Science*. 36(4): 436–448.
- Schwenk, C. R. (1982a). "Effects of Inquiry Methods and Ambiguity Tolerance on Prediction Performance". *Decision Sciences*. 13: 207–221.
- Schwenk, C. R. (1982b). "Dialectical Inquiry in Strategic Decision-Making: A Comment on the Continuing Debate". *Strategic Management Journal*: 371–373.
- Schwenk, C. R. (1984a). "Effects of Planning Aids and Presentation Media on Performance and Affective Responses in Strategic Decision-Making". *Management Science*. 30(3): 263–272.
- Schwenk, C. R. (1984b). "Devil's Advocacy and Dialectical Inquiry Effects on Prediction Performance: Task Involvement as a Mediating Variable". *Decision Sciences*. 15(4): 449–462.
- Schwenk, C. R. (1984c). "Devil's Advocacy in Managerial Decision-Making". *Journal of Management Studies*. 21(2): 153–168.

- Schwenk, C. R. (1983). "Laboratory Research on Ill-Structured Decision Aids: The Case of Dialectical Inquiry". *Decision Sciences*. 14: 140–144.
- Schwenk, C. R. (1984). "The use of Devil's Advocacy in Strategic Decision Making". In: *Faculty Working Paper, No. 1036*. University of Illinois.
- Schwenk, C. R. (1988). *The Essence of Strategic Decision Making*. Lexington, MA: Lexington Books.
- Schwenk, C. R. (1989). "Research Notes and Communications: A Meta-Analysis on the Comparative Effectiveness of Devil's Advocacy and Dialectical Inquiry". *Strategic Management Journal*. 10: 303–306.
- Schwenk, C. R. and R. A. Cosier (1980). "Effects of Expert, Devil's Advocacy, and Dialectical Inquiry Methods on Prediction Performance". *Organizational Behavior and Human Performance*. 26: 409–424.
- Schwenk, C. R. and R. A. Cosier (1993). "Effects of Consensus and Devil's Advocacy in Strategic Decision-Making". *Journal of Applied Social Psychology*. 23(2): 126–139.
- Schwenk, C. R. and H. Thomas (1983). "Effects of Conflicting Analyses on Managerial Decision Making: A Laboratory Experiment". *Decision Science*. 14: 467–482.
- Schwenk, C. and A. S. Huff (1986). "Argumentation in Strategic Decision Making". *Advances in Strategic Management*. 4: 189–202.
- Schwenk, C. and J. S. Valacich (1994). "Effects of Devil's Advocacy and Dialectical Inquiry on Individual Versus Groups". *Organizational Behavior and Human Decision Processes*. 59: 210–222.
- Steiner, I. D. (1972). *Group Process and Productivity*. New York: Academic Press.
- Tjosvold, D. (1982). "Effects of Approach on Superiors' Incorporation of Subordinates' Information in Decision Making". *Journal of Applied Psychology*. 67: 189–193.
- Tjosvold, D. (2006). "Defining Conflict and making Choices about its Management: Lighting the Dark Side of Organizational Life". *International Journal of Conflict Management*. 17(2): 87–95.
- Townsend, A. M., S. M. DeMarie, and A. R. Hendrickson (1998). "Virtual Teams: Technology and the Workplace of the Future". *Academy of Management Executive*. 2(3): 17–29.

- Tung, L. L. and A. R. Heminger (1993). "The Effects of Dialectical Inquiry, Devil's Advocacy, and Consensus Inquiry Methods in a GSS Environment". *Information & Management*. 25: 33–41.
- Tung, L. and M. Quaddus (2001). "Conflict Management in Dialectical Inquiry, Devil's Advocacy and Consensus-Based Decision-Making Approaches in a GSS Environment". In: *PACIS Proceedings. Paper 11*.
- Turoff, M. (1991). "Computer-Mediated Communication Requirements for Group Support". *Journal of Organizational Computing*. 1(1): 85–113.
- Valacich, J. S. and C. R. Schwenk (1995a). "Devil's Advocacy and Dialectical Inquiry Effects on Group Decision Making Using Computer-Mediated Group Decision Making". *Organizational Behavior and Human Decision Processes*. 63(2): 158–173.
- Valacich, J. S. and C. R. Schwenk (1995b). "Structured Conflict in Individual, Face-to-Face, and Computer Mediated Group Decision Making: Carping Versus Objective Devil's Advocacy". *Decision Sciences*. 26(3): 369–393.
- VanGundy, A. (1984). *Managing group creativity*. NY: American Management Association.
- Warkentin, M. E. and P. M. Beranek (1999). "Training to Improve Virtual Team Communication". *Information Systems Journal*. 8: 271–289.
- Warkentin, M. E., L. Sayeed, and R. Hightower (1997). "Virtual Learns Versus Face-to-Face Teams: An Exploratory Study of a Web-based Conference System". *Decision Sciences*. 28(3): 975–006.
- West, M. A. (1990). "The social psychology of innovation in groups". In: *Innovation and Creativity at Work: Psychological and Organizational Strategies*. Ed. by M. A. West and J. L. Farr. Chichester: Wiley. 101–122.