DECISION ANALYSIS NEWSLETTER

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Editor's Note

Just a reminder that we are eager to publish abstracts of all papers in the area of Decision Analysis, broadly conceived. The only requirements for our publishing an abstract of your work are:

1) That the paper itself be available for distribution upon request; and (2) that the abstract not exceed 200 words by much.

If there is a charge, please so indicate when you send your <u>complete paper</u> to the editor:

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Please phone or write in any changes in your activities or employment that could be of interest to our membership.
<u>Please Note:</u> Inform the ORSA business office of address changes; we get mailing labels from them! Thanks!

From the Chairperson

At the St. Louis Meeting, the Council came up with an idea that should provide an important service to members of the SIG. A volunteer SIG Member is needed to make the idea a reality.

The Idea. Published papers concerning decision analysis appear in a large number of journals (approximately 15), many of which would not be read by a single individual. Is there a volunteer

Joao Luiz Becker Wins 1987 ORSA Decision Analysis Special Interest Group Student Paper Competition

Professor Joao Luiz Becker won the second annual ORSA Decision Analysis Special Interest Group's Student Paper Competition with his paper, "Lottery Dependent Utility," which is coauthored with Professor Rakesh Sarin of Duke University. Professor

Ramsey Medal (I)

The Frank P. Ramsey Medal will be awarded to a distinguished Decision Analyst at the SIG meeting on Monday, April 25, 1988 in Washington, D.C. Plan on attending!

MCDM WorldScan Newsletter

<u>MCDM WorldScan</u>, formerly called <u>FACET</u>, is the new name of the newsletter of the International Special Interest Group on Mulitple Criteria Decision Making (MCDM).

The Special Interest Group is an international association of researchers and practitioners that share an interest in how multiple criteria can be formally incorporated into the decision making process.

Ramsey Medal (II): Awarding the Frank P. Ramsey Medal

The main objective of the Frank P. Ramsey Medal sponsored by the Special Interest Group on Decision Analysis is to recognize significant long-term contributions to decision analysis. These contributions may be theoretical, procedural, methodological, philosophical, or concern applications. Secondary objectives

Chairperson, cont.d

who would like the position of PUBLICATIONS EDITOR of the SIG who would scan these numerous journals and provide a list of the published papers for periodic publication in the SIG Newsletter? The PUBLICATION EDITOR might also contact each of a group of "contributing editors" at the consulting firms specializing in decision analysis to include reports of applications not available in the journals. A list of such published papers and unpublished consulting reports would complement the current "Reports Received" section of the Newsletter edited by Irv LaValle.

If you are interested in providing this service to the SIG, please contact Irv LaValle with your thoughts and suggestions.

Ralph L. Keeney, SIG Chairperson

MCDM, cont'd.

MCDM, broadly defined, includes multiple objective programming, goal programming, vector optimization, the analytic hierarchy process, outranking relations, multi-attribute utility theory, other discrete alternative methods, interactive procedures, and behavioral issues.

MCDM WorldScan is edited by Ralph E. Steuer and is published three times a year, in February, June, and October. The newsletter is distributed free-of-charge under grants from the University of Georgia and Erasmus University Rotterdam (The Netherlands). The newsletter's circulation is currently over 1100 to over 50 countries.

In addition to usual newsletter material, MCDM WorldScan features reviews of all books and proceedings volumes on MCDM and a comprehensive worldwide bibliography on all recently published MCDM articles. Also, once a year, MCDM WorldScan publishes an MCDM Directory which lists the addresses,

Ramsey (II) cont'd.

of the award are to provide incentive for quality work in the field of decision analysis, to promote attendance of the decision analysts at ORSA/TIMS meetings, and to focus attention on the contributions of decision analysis and the role of the Special Interest Group in the field.

The main criterion for awarding the Frank P. Ramsey Medal is significant long-term contributions to decision analysis. Also, the body of work, for which the award is given, should have a focus on decision analysis. For example, the inventors of computers who have greatly facilitated large-scale decision analysis, would not be appropriate candidates for the Ramsey Medal. The Ramsey Medal should be awarded to individuals only, except in extenuating circumstances, and be awarded no more frequently than once a year.

The Chairperson of the Special Interest Group has responsibility to carry out the selection process for the Ramsey Medal winner. The process for selecting an individual for the Ramsey Medal is as follows. The Chairperson should solicit nominees from members of the SIG (perhaps through a notice in the SIG Newsletter), Council Members, and former Ramsey Medal winners. The selection of a Ramsey Medal winner is the responsibility of the SIG Council. They first vote using approval voting for each nominee. The preferential voting is used to select one winner or no winners. The precise criteria for whether a candidate passes from the approval voting stage to the preferential voting stage can be selected by the Council. At the preferential voting stage, at least six of the ten Council Members must vote for a candidate for the award to be given. However, the Council can, at its

Ramsey (II) cont'd.

discretion, use more stringent criteria. Also, the Council, at its discretion, may choose to include all or part of the former Ramsey Medal winners in either the approval voting or the preferential voting process.

The selection of a Ramsey Medal winner should be completed at the meeting prior to the meeting at which the award will be given. This will allow appropriate time (although it is tight) to announce the award winner and his or her presentation in the Bulletin for the forthcoming meeting.

MCDM cont'd.

telephone numbers, and electronic mail addresses of everyone in the MCDM WorldScan mailing list.

To receive issues of MCDM WorldScan and be included on the mailing list, contact Ralph E. Steuer, Department of Management Science & Information Technology, Brooks Hall, University of Georgia, Athens, Georgia 30602.

Joao Luiz Becker cont'd.

Becker graduated from U.C.L.A. His dissertation advisor was Professor Rakesh Sarin. Professor Becker is a faculty member of the Faculdade de Ciencias Economicas of the Universidade Federal do Rio Grande do Sul in Porto Alegre, Brazil.

Professor L. Robin Keller was the Chair of the 1987 Student Paper Competition. The winner was announced at the ORSA/TIMS meeting in St. Louis, October 25-28, 1987. Inquiries about this competition may be addressed to Professor Keller at the Graduate School of Management, University of California, Irvin, CA 92717 (714)856-6348.

L. Robin Keller

Papers Received

From **Michael H. Rothkopf**, Lawrence Berkeley Laboratory, University of California, Berkeley, CA 94720:

Bridging the Gap Between First-and Second-Price Auctions with Withdrawable Winning Bids

This paper formulates and analyzes game-theoretic and decision-theoretic models of auctions in which bidders may submit multiple bids and, perhaps at cost, withdraw bids that are more aggressive than necessary to win. While such withdrawal strategies are currently surreptitious, legitimization would create market mechanisms intermediate between first-price and second-price auctions. We describe a particular auction in which a winning bid was withdrawn and fit one of our models to data from it.

From **Peter H. Farquhar** and **Anthony R. Pratkanis**, Graduate School of Industrial Administration, Carnegie-Mellon University, Pittsburgh, PA 15213:

Phantom Choices: The Effects of Unavailable Alternatives on Decision Making

A phantom alternative is a choice option that is unavailable at the time a decision is made. Traditional models of individual choice behavior (e.g., Luce, 1959) assume that unavailable alternatives are irrelevant and

do not affect decision making. Previous research on social judgment and cognition, however, suggests that unavailable alternatives can influence judgment and choice. The present research identifies two such processes. The study examined the effects of adding an attractive yet unavailable brand to a choice set consisting of two available brands described in two attributes. The addition of the phantom brand resulted in (a) a contrast effect on the ratings of the brands on each attribute and (b) a shift in the importances of these attributes. These two processes had opposing, but nonetheless predictable, effects on choice behavior. When an attractive phantom alternative was placed near a target alternative, its choice probability increased an average of 5.0% over the case where no phantom was present. When the phantom was placed at a distance from the target alternative, its choice probabillity increased at an average of only 3.8%.

Though small, these effects are significant for applications where large numbers of individuals might be influenced by phantom alternatives. Phantoms are quite common, for example, in many consumer product categories where new productes are preannounced before they are available or where existing products are frequently out-of-stock. This study provides useful insights for managing products in such categories. On the other hand, this research points out limitations in the applicability of traditional choice theory and emphasizes the need for changes in problem structuring and choice modeling.

From **L. Robin Keller**, Graduate School of Management, University of California, Irvine, CA 92717:

Decision Problem Structuring: Generating Options.

A framework for choosing among methods for generating options for subsequent evaluation in a formal decision analysis is proposed. First, the overall process of decision problem structuring is briefly discussed. A model of the way knowledge is represented cognitively is presented. Criteria for evaluating the sufficiency of the set of generated options are presented and general strategies for searching through a person's cognitive network to meet these criteria are suggested. Next, five categories of option-generating procedures are presented, including attribute-based, state-based, composite, option-based, and creativity techniques. The paper concludes with a discussion of future research directions and implications for the development of decision aids.

Decision Problem Structuring: Generating States of Nature.

An integrative framework of methods for generating possible states of nature as part of a formal analysis of a decision problem under risk is proposed. First, the overall process of decision problem structuring is briefly discussed. Criteria for evaluating the sufficiency of the set of generated states of nature are presented. A model of the way knowledge is represented cognitively is presented and general strategies for searching through a person's cognitive network are suggested. Next, methods for generating states of nature and modeling procedures for aiding probabilistic thinking are presented. State-generating methods are divided into four categories: probability-based, state-based, option-based, and general creativity techniques. The paper concludes with a discussion of future research directions and implications for the development of decision aids.