The Decision Science Process

INTEGRATING THE QUANTITATIVE AND BEHAVIORAL

THAD B. GREEN

Mississippi State University

SANG M. LEE

The University of Nebraska-Lincoln

WALTER B. NEWSOM

Mississippi State University

editors



Contents

Preface

X

Part I: Introduction

A. The State of the Art: Overview

INTEGRATING THE QUANTITATIVE AND BEHAVIORAL,
 Thad B. Green, Walter B. Newsom and Sang M. Lee

MANAGEMENT SCIENCE AND BUSINESS PRACTICE,
 C. Jackson Grayson 23

X 3. BEYOND PROBLEM SOLVING, Russell L. Ackoff

35

Part II: Premodeling

A. Understanding the Client

- 1. HOW MANAGERS' MINDS WORK, James L. McKenney and Peter G.W. Keen 45
- X 2. MANAGERIAL WORK: ANALYSIS FROM OBSERVATION, Henry Mintzberg 62
- MANAGERIAL ACCEPTANCE OF SCIENTIFIC RECOMMENDATIONS,
 West Churchman 79
- 4. MANAGEMENT MISINFORMATION SYSTEMS, Russell L. Ackoff 89

B. Interpersonal Relationships with the Client

- 5. MANAGEMENT INFORMATION SYSTEMS: THE CHALLENGE TO RATIONALITY AND EMOTIONALITY, Chris Argyris 101
 - 6. HOW DO YOUR QUANTITATIVE SPECIALISTS STACK-UP?, Thad B. Green and Dennis F. Ray 123
 - DEVELOPING A SUCCESSFUL CLIENT-CONSULTANT RELATIONSHIP, Charles H. Ford 129

C. Intraorganizational Relationships with the Client

- 8. INTEGRATION AND UTILIZATION OF MANAGEMENT SCIENCE ACTIVITIES IN ORGANIZATIONS, Michael Radnor, Albert H. Rubenstein and Alden S. Bean 145
- THE RELATION BETWEEN FORMAL PROCEDURES FOR PURSUING OR/MS ACTIVITIES AND OR/MS GROUP SUCCESS, Rodney D. Neal and Michael Radnor 171

D. Communication and Premodeling

197

Part III: Modeling

A. Modeling for Managers

- X 1. MODELS ARE FOR MANAGERS, NOT MATHEMATICIANS, Edward F. Konczal 211
 - ✓ 2. MODELS AND MANAGERS: THE CONCEPT OF A DECISION CALCULUS, John D.C. Little 218

B. The Modeling Function

- ★ 3. DO'S AND DON'TS OF COMPUTER MODELS FOR PLANNING, John S. Hammond III 243
- 4. WHAT KIND OF CORPORATE MODELING FUNCTIONS BEST?, Robert H. Hayes and Richard L. Nolan 264

Part IV: Implementation

A. The Implementation Partnership

- 1. THE RESEARCHER AND THE MANAGER: A DIALECTIC OF IMPLEMENTATION, C.W. Churchman and A.H. Schainblatt 283
- 2. THE ROLES OF THE MANAGER AND MANAGEMENT SCIENTIST IN SUCCESSFUL IMPLEMENTATION, John S. Hammond 304

B. Communication and Implementation

- ORGANIZATIONAL FACTORS RELATED TO OPERATIONS
 RESEARCH PROJECT GROUP EFFECTIVENESS, Robert D. Amspoker,
 J. Randall Brown, Robert D. Smith and Robert H. Culhan 327
- 4. THE COMMUNICATION OF THE RESULTS OF OPERATIONAL RESEARCH TO THE MAKERS OF POLICY, B.D. Hankin 336
- 5. THE ART OF EXPOSITION, The Rt. Hon. the Earl of Halsbury 345

C. Organizational and Behavioral Factors

6. FACTORS RELATED TO THE IMPLEMENTATION OF OPERATIONS RESEARCH SOLUTIONS, Lars Lonnstedt 361

Contents

- 7. THE POLITICS OF MANAGEMENT SCIENCE, Martin K. Starr 371
- 8. PROGRAMMING COUNTERPRODUCTIVE METHODS TO INSURE THE RAPID TERMINATION OF OPERATIONS RESEARCH/MANAGEMENT SCIENCE DEPARTMENTS, Russell W. Fenske 279

Part	W.	Concl	usian
Ian	v :	Conce	uoion

1. THE WIT AND WISDOM OF R.E.D. WOOLSEY, Walter B. Newsom, Thad B. Green and Sang M. Lee 385