

Contents

Part I Complex Decision Making: Concepts, Theories, and Empirical Evidence

1 How to Improve Dynamic Decision Making? Practice and Promise

Mustafa Krakul and Hassan Qudrat-Ullah.....3

2 Expertise and Dynamic Tasks

J. Michael Spector.....25

Part II Tools and Techniques for Decision Making in Complex Systems

3 Dynamic Handling of Uncertainty for Decision Making

S.C. Lenny Koh.....41

4 Using System Dynamics and Multiple Objective Optimization to Support Policy Analysis for Complex Systems

Jim Duggan.....59

5 Creation of Hydroelectric System Scheduling by Simulation

*Jesús M. Latorre, Santiago Cerisola, Andrés Ramos, Rafael Bellido,
and Alejandro Perea*.....83

6 Complex Decision Making using Non-Parametric Data Envelopment Analysis

Michael Alexander.....97

7 Using Group Model Building to Inform Public Policy Making and Implementation

Aldo A. Zagonel and John Rohrbaugh.....113

8 Agents First! Using Agent-based Simulation to Identify and Quantify Macro Structures

Nadine Schieritz and Peter M. Milling.....139

Part III System Dynamics and Agent-Based Modeling in Action

9 Influencing and Interpreting Health and Social Care Policy in the UK

Eric Wolstenholme, David Monk, Douglas McKelvie, and Gill Smith..... 155

10 System Dynamics Advances Strategic Economic Transition Planning in a Developing Nation

Brian Dangerfield.....185

11 Saving a Valley: Systemic Decision-making Based on Qualitative and Quantitative System Dynamics

Markus Schwaninger.....211

12 Building Long-Term Manufacturer-Retailer Relationships through Strategic Human Resource Management Policies: A System Dynamics Approach

Enzo Bivona and Francesco Ceresia227

13 Diffusion and Social Networks: Revisiting Medical Innovation with Agents

Nazmun N. Ratna, Anne Dray, Pascal Perez, R. Quentin Grafton, David Newth, and Tom Kompas.....247

Part IV Methodological Issues in Research on Complex Decision Making

14 Measuring Change in Mental Models of Complex Dynamic Systems

James K. Doyle, Michael J. Radzicki, and W. Scott Trees.....269

15 A Comprehensive Model of Goal Dynamics in Organizations: Setting, Evaluation and Revision

Yaman Barlas and Hakan Yasarcan295

Part V Future Directions on Complex Decision Making

16 Future Directions on Complex Decision Making Using Modeling and Simulation Decision Support

Hassan Quadrat-Ullah323

Complex Decision Making

Theory and Practice

Qudrat-Ullah, H.; Spector, M.; Davidsen, P. (Eds.)

2008, XII, 337 p., Hardcover

ISBN: 978-3-540-73664-6