Contents

Part I  Preliminaries

1  An Invitation to Portfolio Decision Analysis ............................................. 3
   Ahti Salo, Jeffrey Keisler, and Alec Morton

2  Portfolio Decision Quality ................................................................. 29
   Jeffrey Keisler

3  The Royal Navy’s Type 45 Story: A Case Study .................................. 53
   Lawrence D. Phillips

Part II  Methodology

4  Valuation of Risky Projects and Illiquid Investments
   Using Portfolio Selection Models ...................................................... 79
   Janne Gustafsson, Bert De Reyck, Zeger Degraeve, and Ahti Salo

5  Interactive Multicriteria Methods in Portfolio Decision Analysis ......... 107
   Nikolaos Argyris, José Rui Figueira, and Alec Morton

6  Empirically Investigating the Portfolio Management
   Process: Findings from a Large Pharmaceutical Company .................. 131
   Jeffrey S. Stonebraker and Jeffrey Keisler

7  Behavioural Issues in Portfolio Decision Analysis ............................ 149
   Barbara Fasolo, Alec Morton, and Detlof von Winterfeldt

8  A Framework for Innovation Management ......................................... 167
   Gonzalo Arévalo and David Ríos Insua
9 An Experimental Comparison of Two Interactive Visualization Methods for Multicriteria Portfolio Selection .......... 187
Elmar Kiesling, Johannes Gettinger, Christian Stummer,
and Rudolf Vetschera

Part III Applications

10 An Application of Constrained Multicriteria Sorting to Student Selection ....................................................... 213
Julie Stal-Le Cardinal, Vincent Mousseau, and Jun Zheng

11 A Resource Allocation Model for R&D Investments: A Case Study in Telecommunication Standardization ............ 241
Antti Toppila, Juuso Liesiö, and Ahti Salo

12 Resource Allocation in Local Government with Facilitated Portfolio Decision Analysis ........................................ 259
Gilberto Montibeller and L. Alberto Franco

13 Current and Cutting Edge Methods of Portfolio Decision Analysis in Pharmaceutical R&D ................................. 283
Jack Kloebber

14 Portfolio Decision Analysis: Lessons from Military Applications ..... 333
Roger Chapman Burk and Gregory S. Parnell

15 Portfolio Decision Analysis for Population Health ............... 359
Mara Airoldi and Alec Morton

About the Editors ........................................................................... 383

About the Authors ........................................................................... 387

Index ................................................................................................ 405