

1. Record Nr.	UNINA9910139468803321
Titolo	Decision-making process : Concepts and methods [[electronic resource]] / / edited by Denis Bouyssou ... [et al.]
Pubbl/distr/stampa	Hoboken, NJ, : John Wiley & Sons, 2009
ISBN	1-282-68400-0 9786612684005 0-470-61187-1 0-470-61030-1
Descrizione fisica	1 online resource (904 p.)
Collana	ISTE ; ; v.135
Altri autori (Persone)	BouyssouD (Denis)
Disciplina	658.4/03 658.403
Soggetti	Decision support systems Decision making - Mathematical models Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Decision-making Process; Contents; Preface; Chapter 1. From Decision Theory to Decision-aiding Methodology; 1.1. Introduction; 1.2. History; 1.2.1. Genesis and youth; 1.2.2. Maturity; 1.3. Different decision-aiding approaches; 1.4. The decision-aiding process; 1.4.1. The problem situation; 1.4.2. The problem formulation; 1.4.3. The evaluation model; 1.4.4. The final recommendation; 1.5. Conclusion; 1.6. Acknowledgements; 1.7. Bibliography; Chapter 2. Binary Relations and Preference Modeling; 2.1. Introduction; 2.2. Binary relations; 2.2.1. Definitions; 2.2.2. Properties of a binary relation; 2.2.3. Graphical representation of a binary relation; 2.2.4. Matrix representation of a binary relation; 2.2.5. Example; 2.3. Binary relations and preference structures; 2.4. Classical preference structures; 2.4.1. Total order; 2.4.1.1. Definition; 2.4.1.2. Numerical representation; 2.4.2. Weak orders; 2.4.2.1. Definition; 2.4.2.2. Numerical representation; 2.4.3. Classical problems; 2.4.3.1. Choosing on the basis of binary relation; 2.4.3.2. Aggregating preferences; 2.4.3.3. Particular structure of the set of objects; 2.5. Semi-orders and interval

orders; 2.5.1. Semi-order; 2.5.1.1. Definition  
2.5.1.2. Weak order associated with a semi-order 2.5.1.3. Matrix representation; 2.5.1.4. Numerical representation; 2.5.2. Interval order; 2.5.2.1. Definition; 2.5.2.2. Weak orders associated with an interval order; 2.5.2.3. Matrix representation; 2.5.2.4. Numerical representation; 2.5.3. Remarks; 2.6. Preference structures with incomparability; 2.6.1. Partial order; 2.6.2. Quasi-order; 2.6.3. Synthesis; 2.7. Conclusion; 2.7.1. Other preference structures; 2.7.2. Other problems; 2.8. Bibliography; Chapter 3. Formal Representations of Uncertainty; 3.1. Introduction  
3.2. Information: a typology of defects 3.2.1. Incompleteness and imprecision; 3.2.2. Uncertainty; 3.2.3. Gradual linguistic information; 3.2.4. Granularity; 3.3. Probability theory; 3.3.1. Frequentists and subjectivists; 3.3.2. Conditional probability; 3.3.3. The unique probability assumption in the subjective setting; 3.4. Incompleteness-tolerant numerical uncertainty theories; 3.4.1. Imprecise probabilities; 3.4.2. Random disjunctive sets and belief functions; 3.4.3. Quantitative possibility theory; 3.4.3.1. Possibility theory and belief functions 3.4.3.2. Possibility theory and imprecise probabilities 3.4.3.3. Clouds and generalized p-boxes; 3.4.3.4. Possibility-probability transformations; 3.4.4. Possibility theory and non-Bayesian statistics; 3.5. Qualitative uncertainty representations; 3.6. Conditioning in non-additive representations; 3.6.1. Conditional events and qualitative conditioning; 3.6.2. Conditioning for belief functions and imprecise probabilities; 3.7. Fusion of imprecise and uncertain information; 3.7.1. Non-Bayesian probabilistic fusion; 3.7.2. Bayesian probabilistic fusion; 3.7.3. Fusion in possibility theory  
3.7.4. Fusion of belief functions

---

#### Sommario/riassunto

This book provides an overview of the main methods and results in the formal study of the human decision-making process, as defined in a relatively wide sense. A key aim of the approach contained here is to try to break down barriers between various disciplines encompassed by this field, including psychology, economics and computer science. All these approaches have contributed to progress in this very important and much-studied topic in the past, but none have proved sufficient so far to define a complete understanding of the highly complex processes and outcomes. This book provides the reader

---