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Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XXIV, 698 p. 189 illus., 103 illus. in color.)
Disciplina	658.40301
Soggetti	Operations research Decision making Industrial engineering Production engineering Control engineering Operations Research/Decision Theory Industrial and Production Engineering Control and Systems Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	System Design and the Design Process -- Decisions and Mistakes -- Common Methods and Processes -- Discovering System Requirements -- Tradeoff Studies -- Risk Analysis and Management -- Comparing Four Processes.
Sommario/riassunto	This textbook is about three key aspects of system design: decision making under uncertainty, trade-off studies and formal risk analyses. Recognizing that the mathematical treatment of these topics is similar, the authors generalize existing mathematical techniques to cover all three areas. Common to these topics are importance weights, combining functions, scoring functions, quantitative metrics, prioritization and sensitivity analyses. Furthermore, human decision-making activities and problems use these same tools. Therefore, these problems are also treated uniformly and modeled using prospect theory. Aimed at both engineering and business practitioners and students interested in systems engineering, risk analysis, operational

management, and business process modeling, Tradeoff Decisions in System Design explains how humans can overcome cognitive biases and avoid mental errors when conducting trade-off studies and risk analyses in a wide range of domains. With generous use of examples as a common thread across chapters this book. <employs uml="" and="" sysml="" models="" in="" sections="" for="" added="" perspective.
