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quantities; 3.2 Economic risk; 3.2.1 A simple cost risk example; 3.2.2 Production risk; 3.2.3 Business and project management
3.2.4 Investing money in a stock market3.2.5 Discounted cash flow analysis; 3.3 Accident risk; 3.4 Discussion; Bibliographic notes; 4 How to assess uncertainties and specify probabilities; 4.1 What is a good probability assignment?; 4.1.1 Criteria for evaluating probabilities; 4.1.2 Heuristics and biases; 4.1.3 Evaluation of the assessors; 4.1.4 Standardization and consensus; 4.2 Modeling; 4.2.1 Examples of models; 4.2.2 Discussion; 4.3 Assessing uncertainty of Y; 4.3.1 Assignments based on classical statistical methods; 4.3.2 Analyst judgments using all sources of information
4.3.3 Formal expert elicitation4.3.4 Bayesian analysis; 4.4 Uncertainty assessments of a vector X; 4.4.1 Cost risk; 4.4.2 Production risk; 4.4.3 Reliability analysis; 4.5 Discussion; 4.5.1 Risk analysis and science; 4.5.2 Probability and utility; 4.5.3 Probability and knowledge; 4.5.4 Probability models; 4.5.5 Firm and vague probabilities; 4.5.6 The need for seeing beyond probabilities; 4.5.7 Interval (imprecise) probabilities; 4.5.8 Example of interval (imprecise) probabilities in a risk analysis setting; 4.5.9 Possibility theory
4.5.10 Example of interval (imprecise) probabilities in a risk analysis context using possibility theory4.5.11 Final comments; Bibliographic notes; 5 How to use risk analysis to support decision-making; 5.1 What is a good decision?; 5.1.1 Features of a decision-making model; 5.1.2 Decision-support tools; 5.1.3 Discussion; 5.2 Some examples; 5.2.1 Accident risk; 5.2.2 Scrap in place or complete removal of plant; 5.2.3 Production system; 5.2.4 Reliability target; 5.2.5 Health risk; 5.2.6 Warranties; 5.2.7 Offshore development project; 5.2.8 Risk assessment: National sector
5.2.9 Multi-attribute utility example

Sommario/riassunto

Foundations of Risk Analysis presents the issues core to risk analysis - understanding what risk means, expressing risk, building risk models, addressing uncertainty, and applying probability models to real problems. The author provides the readers with the knowledge and basic thinking they require to successfully manage risk and uncertainty to support decision making. This updated edition reflects recent developments on risk and uncertainty concepts, representations and treatment. New material in Foundations of Risk Analysis includes: An up to