

1. Record Nr.	UNINA9911019292603321
Autore	Aven Terje
Titolo	Risk analysis // Terje Aven
Pubbl/distr/stampa	Chichester, West Sussex, United Kingdom : , : John Wiley & Sons, , 2015
ISBN	9781119057826 1119057825 9781119057819 1119057817 9781119057802 1119057809
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (212 p.)
Disciplina	338.5
Soggetti	Risk assessment - Mathematical models Risk - Mathematical models Uncertainty - Mathematical models Analyse des risques risk management Modèles mathématiques
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover; Title Page; Copyright; Contents; Preface; Chapter 1 What is a risk analysis?; 1.1 Why risk analysis?; 1.2 Risk management; 1.2.1 Decision-making under uncertainty; 1.3 Examples: decision situations; 1.3.1 Risk analysis for a tunnel; 1.3.2 Risk analysis for an offshore installation; 1.3.3 Risk analysis related to a cash depot; Chapter 2 What is risk?; 2.1 The risk concept and its description; 2.2 Vulnerability; 2.3 How to describe risk quantitatively; 2.3.1 Description of risk in a financial context; 2.3.2 Description of risk in a safety context; 2.4 Qualitative judgementsChapter 3 The risk analysis process: planning3.1 Problem definition; 3.2 Selection of analysis method; 3.2.1 Checklist-based approach; 3.2.2 Risk-based approach; Chapter 4 The risk analysis process: risk assessment; 4.1 Identification of initiating events; 4.2 Cause analysis; 4.3 Consequence analysis; 4.4 Probabilities and

uncertainties; 4.5 Risk picture: risk presentation; 4.5.1 Handling the background knowledge; 4.5.2 Risk evaluation; Chapter 5 The risk analysis process: risk treatment; 5.1 Comparisons of alternatives; 5.1.1 How to assess measures?; 5.2 Management review and judgementChapter 6 Risk analysis methods6.1 Coarse risk analysis; 6.2 Job safety analysis; 6.3 Failure modes and effects analysis; 6.3.1 Strengths and weaknesses of an FMEA; 6.4 Hazard and operability studies; 6.5 SWIFT; 6.6 Fault tree analysis; 6.6.1 Qualitative analysis; 6.6.2 Quantitative analysis; 6.7 Event tree analysis; 6.7.1 Barrier block diagrams; 6.8 Bayesian networks; 6.9 Monte Carlo simulation; Chapter 7 Safety measures for a road tunnel; 7.1 Planning; 7.1.1 Problem definition; 7.1.2 Selection of analysis method; 7.2 Risk assessment; 7.2.1 Identification of initiating events7.2.2 Cause analysis7.2.3 Consequence analysis; 7.2.4 Risk picture; 7.3 Risk treatment; 7.3.1 Comparison of alternatives; 7.3.2 Management review and decision; Chapter 8 Risk analysis process for an offshore installation; 8.1 Planning; 8.1.1 Problem definition; 8.1.2 Selection of analysis method; 8.2 Risk analysis; 8.2.1 Hazard identification; 8.2.2 Cause analysis; 8.2.3 Consequence analysis; 8.3 Risk picture and comparison of alternatives; 8.4 Management review and judgement; Chapter 9 Production assurance; 9.1 Planning; 9.2 Risk analysis; 9.2.1 Identification of failures9.2.2 Cause analysis9.2.3 Consequence analysis; 9.3 Risk picture and comparison of alternatives; 9.4 Management review and judgement. Decision; Chapter 10 Risk analysis process for a cash depot; 10.1 Planning; 10.1.1 Problem definition; 10.1.2 Selection of analysis method; 10.2 Risk analysis; 10.2.1 Identification of hazards and threats; 10.2.2 Cause analysis; 10.2.3 Consequence analysis; 10.3 Risk picture; 10.4 Risk-reducing measures; 10.4.1 Relocation of the NOKAS facility; 10.4.2 Erection of a wall; 10.5 Management review and judgement. Decision; 10.6 DiscussionChapter 11 Risk analysis process for municipalities

Sommario/riassunto

Risk Analysis, Second Edition Terje Aven, University of Stavanger, Norway A practical guide to the varied challenges presented in the ever-growing field of risk analysis. Risk Analysis presents an accessible and concise guide to performing risk analysis, in a wide variety of field, with minimal prior knowledge required. Forming an ideal companion volume to Aven's previous Wiley text Foundations of Risk Analysis, it provides clear recommendations and guidance in the planning, execution and use of risk analysis. This new edition presents recent developments related to risk conceptualization, focusing on related issues on risk assessment and their application. New examples are also featured to clarify the reader's understanding in the application of risk analysis and the risk analysis process. Key features: Fully updated to include recent developments related to risk conceptualization and related issues on risk assessments and their applications. Emphasizes the decision making context of risk analysis rather than just computing probabilities Demonstrates how to carry out predictive risk analysis using a variety of case studies and examples. Written by an experienced expert in the field, in a style suitable for both industrial and academic audiences. This book is ideal for advanced undergraduates, graduates, analysts and researchers from statistics, engineering, finance, medicine and physical sciences. Managers facing decision making problems involving risk and uncertainty will also benefit from this book.