

### Operational Risk In Wiley Encyclopedia Of Operations

There are more than one billion documents on the Web, with the count continually rising at a pace of over one million new documents per day. As information increases, the motivation and interest in data warehousing and mining research and practice remains high in organizational interest. The Encyclopedia of Data Warehousing and Mining, Second Edition, offers thorough exposure to the issues of importance in the rapidly changing field of data warehousing and mining. This essential reference source informs decision makers, problem solvers, and data mining specialists in business, academia, government, and other settings with over 300 entries on theories, methodologies, functionalities, and applications.

This book highlights quantitative risk assessment and modeling methods for assessing health risks caused by air pollution, as well as characterizing and communicating remaining uncertainties. It shows how to apply modern data science, artificial intelligence and machine learning, causal analytics, mathematical modeling, and risk analysis to better quantify human health risks caused by environmental and occupational exposures to air pollutants. The adverse health effects that are caused by air pollution, and preventable by reducing it, instead of merely being statistically associated with exposure to air pollution (and with other many conditions, from cold weather to low income) have proved to be difficult to quantify with high precision and confidence, largely because correlation is not causation. This book shows how to use recent advances in causal analytics and risk analysis to determine more accurately how reducing exposures affects human health risks. Quantitative Risk Analysis of Air Pollution Health Effects is divided into three parts. Part I focuses mainly on quantitative simulation modelling of biological responses to exposures and resulting health risks. It considers occupational risks from asbestos and crystalline silica as examples, showing how dynamic simulation models can provide insights into more effective policies for protecting worker health. Part II examines limitations of regression models and the potential to instead apply machine learning, causal analysis, and Bayesian network learning methods for more accurate quantitative risk assessment, with applications to occupational risks from inhalation exposures. Finally, Part III examines applications to public health risks from air pollution, especially fine particulate matter (PM2.5) air pollution. The book applies freely available browser analytics software and data sets that allow readers to download data and carry out many of the analyses described, in addition to applying the techniques discussed to their own data. http://cox-associates.com:8899/

The Encyclopedia received the 2011 RUSA Award for Outstanding Business Reference Source AN UNPARALLELED UNDERTAKING The Wiley Encyclopedia of Operations Research and Management Science is the first multi-volume encyclopedia devoted to advancing the areas of operations research and management science. The Encyclopedia is available online and in print. The Encyclopedia was honored with the distinction of an "Outstanding Business Reference Source" by the Reference and User Services Association DETAILED AND AUTHORITATIVE Designed to be a mainstay for students and professionals alike, the Encyclopedia features four types of articles at varying levels written by diverse, international contributors. • Introductory articles provide a broad and moderately technical treatment of core topics. • Advanced articles review key areas of research in a citation-rich format similar to that of leading review journals. • Technical articles provide more detailed discussions of key concepts addressed in related articles. • Case Studies/Historical Interludes present successful and/or interesting examples of operations research and management science methodology in practical or historical contexts. KEY FEATURES OF THE ENCYCLOPEDIA • Offers the only cohesive multi-volume reference devoted to operations research and management science theory, methodology, and applications • Includes over 600 articles with contributions from over 1,000 authors from 45 countries. • Features an Editorial Board comprised of experts in the field who have vast experience in academia, industry, and government • Designed to make the content useful and accessible to the widest possible readership • Provides practical tools to maximize benefits and minimize cost and risk

ORSI Ahmedabad chapters has taken the initiatives to conduct an annual conference focusing on theory and practice of operational Research in the Indian context. These conferences are named as Management Science and practice (MSP). The peer review edition proceedings of the conference are published for wider dissemination. The 5th edition of MSP was held at IIM Indore in August 2012. This event was attended by about 50 scholars. A dozen invited presentations from eminent academicians formed the core academic program. The edited proceedings are presented in this volume.

Credit Securitisations and Derivatives

Creating The Risk Intelligent Enterprise

Supply Chain Risk Management in the Apparel Industry

Hearing Before the Subcommittee on Environment, Committee on Science, Space, and Technology, House of Representatives, One Hundred Thirteenth Congress, Second Session, February 11, 2014

Fundamentals, Simulation, Optimization

Encyclopedia of Crisis Management

***An essential overview of post-deregulation market operations inelectrical power systems Until recently the U.S. electricity industry was dominated byvertically integrated utilities. It is now evolving into adistributive and competitive market driven by market forces andincreased competition. With electricity amounting to a \$200 billionper year market in the United States, the implications of thisrestructuring will naturally affect the rest of the world. Why is restructuring necessary? What are the components ofrestructuring? How is the new structure different from the oldmonopoly? How are the participants strategizing their options tomaximize their revenues? What are the market risks and how are theyevaluated? How are interchange transactions analyzed and approved?Starting with a background sketch of the industry, this hands-onreference provides insights into the new trends in power systemsoperation and control, and highlights advanced issues inthefield. Written for both technical and nontechnical professionals involvedin power engineering, finance, and marketing, this must-haveresource discusses: \* Market structure and operation of electric power systems \* Load and price forecasting and arbitrage \* Price-based unit commitment and security constrained unitcommitment \* Market power analysis and game theory applications \* Ancillary services auction market design \* Transmission pricing and congestion Using real-world case studies, this timely survey offers engineers,consultants, researchers, financial managers, university professorsand students, and other professionals in the industry acomprehensive review of electricity restructuring and how itsradical effects will shape the market.***

***Wiley Encyclopedia of Operations Research and Management Science, 8 Volume SetWiley***

***Covering the design, development, operation and mission profiles of unmanned aircraft systems, this single, comprehensive volume forms a complete, stand-alone reference on the topic. The volume integrates with the online Wiley Encyclopedia of Aerospace Engineering, providing many new and updated articles for existing subscribers to that work.***

***A comprehensive resource providing extensive coverage of the state of the art in credit securitisations, derivatives, and risk management Credit Securitisations and Derivatives is a one-stop resource presenting the very latest thinking and developments in the field of credit risk. Written by leading thinkers from academia, the industry, and the regulatory environment, the book tackles areas such as business cycles; correlation modelling and interactions between financial markets, institutions, and instruments in relation to securitisations and credit derivatives; credit portfolio risk; credit portfolio risk tranching; credit ratings for securitisations; counterparty credit risk and clearing of derivatives contracts and liquidity risk. As well as a thorough analysis of the existing models used in the industry, the book will also draw on real life cases to illustrate model performance under different parameters and the impact that using the wrong risk measures can have.***

***Challenges for the Global Markets***

***The Wiley Blackwell Handbook of Judgment and Decision Making, 2 Volume Set***

***How to Manage Project Opportunity and Risk***

***Supply Chain Games: Operations Management and Risk Valuation***

***Operational Risk Management***

***Policy Shock***

This book deals with the state-of-the-art of physical security knowledge and research in the chemical and process industries. Legislation differences between Europe and the USA are investigated, followed by an overview of the how, what and why of contemporary security risk assessment in this particular industrial sector. Innovative solutions such as attractiveness calculations and the use of game theory, advancing the present science of adversarial risk analysis, are discussed. The book further stands up for developing and employing dynamic security risk assessments, for instance based on Bayesian networks, and using OR methods to truly move security forward in the chemical and process industries.

"This encyclopedia provides the most comprehensive compilation of information on the design and implementation of e-collaboration technologies, their behavioral impact on individuals and groups, and theoretical considerations on links between the use of e-collaboration technology and behavioral patterns. It delivers indispensable content to libraries and researchers looking to develop programs of investigation into the use of e-collaboration"--Provided by publisher.

A new book to help senior executives and boards get smart about risk management The ability of businesses to survive and thrive often requires unconventional thinking and calculated risk taking. The key is to make the right decisions—even under the most risky, uncertain, and turbulent conditions. In the new book, *Surviving and Thriving in Uncertainty: Creating the Risk Intelligent Enterprise*, authors Rick Funston and Steve Wagner suggest that effective risk taking is needed in order to innovate, stay competitive, and drive value creation. Based on their combined decades of experience as practitioners, consultants, and advisors to numerous business professionals throughout the world, Funston and Wagner discuss the adoption of 10 essential and practical skills, which will improve agility, resilience, and realize benefits: Challenging basic business assumptions can help identify "Black Swans" and provide first-mover advantage Defining the corporate risk appetite and risk tolerances can help reduce the risk of ruin. Anticipating potential causes of failure can improve chances of survival and success through improved preparedness. Factoring in velocity and momentum can improve speed of response and recovery. Verifying sources and the reliability of information can improve insights for decision making and thus decision quality. Taking a longer-term perspective can aid in identifying the potential unintended consequences of short-term decisions.

Leading the way in this field, the Encyclopedia of Quantitative Risk Analysis and Assessment is the first publication to offer a modern, comprehensive and in-depth resource to the huge variety of disciplines involved. A truly international work, its coverage ranges across risk issues pertinent to life scientists, engineers, policy makers, healthcare professionals, the finance industry, the military and practising statisticians. Drawing on the expertise of world-renowned authors and editors in this field this title provides up-to-date material on drug safety, investment theory, public policy applications, transportation safety, public perception of risk, epidemiological risk, national defence and security, critical infrastructure, and program management. This major publication is easily accessible for all those involved in the field of risk assessment and analysis. For ease-of-use it is available in print and online.

Surviving and Thriving in Uncertainty

Encyclopedia of Financial Models

Encyclopedia of Quantitative Risk Analysis and Assessment

Quantitative Modeling of Operational Risk in Finance and Banking Using Possibility Theory

Theory and Applications

Towards Supply Chain Risk Analytics

Volume 3 of the Encyclopedia of Financial Models The need for serious coverage of financial modeling has never been greater, especially with the size, diversity, and efficiency of modern capital markets. With this in mind, the Encyclopedia of Financial Models has been created to help a broad spectrum of individuals—ranging from finance professionals to academics and students—understand financial modeling and make use of the various models currently available. Incorporating timely research and in-depth analysis, Volume 3 of the Encyclopedia of Financial Models covers both established and cutting-edge models and discusses their real-world applications. Edited by Frank Fabozzi, this volume includes contributions from global financial experts as well as academics with extensive consulting experience in this field. Organized alphabetically by category, this reliable resource consists of forty-four informative entries and provides readers with a balanced understanding of today’s dynamic world of financial modeling. Volume 3 covers Mortgage-Backed Securities Analysis and Valuation, Operational Risk, Optimization Tools, Probability Theory, Risk Measures, Software for Financial Modeling, Stochastic Processes and Tools, Term Structure Modeling, Trading Cost Models, and Volatility Emphasizes both technical and implementation issues, providing researchers, educators, students, and practitioners with the necessary background to deal with issues related to financial modeling The 3-Volume Set contains coverage of the fundamentals and advances in financial modeling and provides the mathematical and statistical techniques needed to develop and test financial models Financial models have become increasingly commonplace, as well as complex. They are essential in a wide range of financial endeavors, and the Encyclopedia of Financial Models will help put them in perspective.

Provides information on important aspects of energy production, use, and environmental impact, discussing legal and policy issues as well as technological and environmental concerns, arranged alphabetically by subject, and including photographs, figures, tables, cross-references, and bibliographic entries.

The Encyclopedia received the 2011 RUSA Award for Outstanding Business Reference Source AN UNPARALLELED UNDERTAKING The Wiley Encyclopedia of Operations Research and Management Science is the first multi-volume encyclopedia devoted to advancing the areas of operations research and management science. The Encyclopedia is available online and in print. The Encyclopedia was honored with the distinction of an "Outstanding Business Reference Source" by the Reference and User Services Association DETAILED AND AUTHORITATIVE Designed to be a mainstay for students and professionals alike, the Encyclopedia features four types of articles at varying levels written by diverse, international contributors. Introductory articles provide a broad and moderately technical treatment of core topics. Advanced articles review key areas of research in a citation-rich format similar to that of leading review journals. Technical articles provide more detailed discussions of key concepts addressed in related articles. Case Studies/Historical Interludes present successful and/or interesting examples of operations research and management science methodology in practical or historical contexts. KEY FEATURES OF THE ENCYCLOPEDIA Offers the only cohesive multi-volume reference devoted to operations research and management science theory, methodology, and applications Includes over 600 articles with contributions from over 1,000 authors from 45 countries. Features an Editorial Board comprised of experts in the field who have vast experience in academia, industry, and government Designed to make the content useful and accessible to the widest possible readership Provides practical tools to maximize benefits and minimize cost and risk

"This two-volume reference is a comprehensive, up-to-date examination of the most important theory, concepts, methodological approaches, and applications in the burgeoning field of judgment and decision making (JDM). Brings together a multi-disciplinary group of contributors from across the social sciences, including psychology, economics, marketing, finance, public policy, sociology, and philosophy Provides accessible, essential information, complete with the latest research and references, for experts and non-experts alike in two volumes Emphasizes the growth of JDM applications with separate chapters devoted to medical decision making, decision making and the law, consumer behavior, and more Addresses controversial topics (such as choice from description vs. choice from experience and contrasts between empirical methodologies employed in behavioral economics and psychology) from multiple perspectives "--

The Routledge Companion to Production and Operations Management

Why Uncertainty Management can be a Much Better Approach than Risk Management

Encyclopedia of Data Warehousing and Mining, Second Edition

Handbook of Operations Research for Homeland Security

Encyclopedia of E-Collaboration

Security Risk Assessment

Discover recent powerful advances in the theory, methods, and applications of decision and risk analysis Focusing on recent advances and innovations in the field of decision analysis (DA), Breakthroughs in Decision Science and Risk Analysis presents theories and methods for making, improving, and learning from significant practical decisions. The book explains these new methods and important applications in an easily accessible and stimulating style for readers from multiple backgrounds, including psychology, economics, statistics, engineering, risk analysis, operations research, and management science. Emphasizing topics not traditionally found in DA literature, the book illustrates genuine advances in practical decision science and includes developments and trends that depart from, or break with, the standard axiomatic DA paradigm in fundamental and useful ways. The book features methods for coping with realistic decision-making challenges, including online adaptive learning algorithms, innovations in robust decision-making, and the use of a variety of models to provide more-or-less plausible explanations for available data and recommended actions. In addition, the book illustrates how these techniques can be applied to dramatically improve risk management decisions. Breakthroughs in Decision Science and Risk Analysis also includes: An emphasis on new approaches rather than classical and traditional ideas Discussions of how decision and risk analysis can be applied to improve high-stakes policy and management decisions Coverage of the potential value and realism of decision science within applications in financial, health, safety, environmental, business, engineering, and security risk management Innovative methods for deciding what to do when decision problems are not completely known or described or when useful probabilities cannot be specified Recent breakthroughs in the psychology and brain science of risky decisions, mathematical foundations and techniques, and integration with learning and pattern recognition methods from computational intelligence Breakthroughs in Decision Science and Risk Analysis is an ideal reference for researchers, consultants, and practitioners in the fields of decision science, operations research, business, management science, engineering, statistics, and mathematics. The book is also an appropriate guide for managers, analysts, and decision and policy makers in the areas of finance, health and safety, environment, business, engineering, and security risk management. Louis Anthony (Tony) Cox, Jr. PhD, is Chief Sciences Officer of NextHealth Technologies, a Denver-based health care advanced analytics software company and President of Cox Associates, Inc., a Denver-based applied research company specializing in quantitative health risk assessment, risk analysis, causal modeling, and operations research. Dr. Cox is also Clinical Professor of Biostatistics and Informatics at the University of Colorado at Denver, a member of the National Academy of Engineering, and Editor-in-Chief of Risk Analysis: An International Journal.

A comprehensive review of behavioral operations management that puts the focus on new and trending research in the field The Handbook of Behavioral Operations offers a comprehensive resource that fills the gap in the behavioral operations management literature. This vital text highlights best practices in behavioral operations research and identifies the most current research directions and their applications. A volume in the Wiley Series in Operations Research and Management Science, this book contains contributions from an international panel of scholars from a wide variety of backgrounds who are conducting behavioral research. The handbook provides succinct tutorials on common methods used to conduct behavioral research, serves as a resource for current topics in behavioral operations research, and as a guide to the use of new research methods. The authors review the fundamental theories and offer frameworks from a psychological, systems dynamics, and behavioral economic standpoint. They provide a crucial grounding for behavioral operations as well as an entry point for new areas of behavioral research. The handbook also presents a variety of behavioral operations applications that focus on specific areas of study and includes a survey of current and future research needs. This important resource: Contains a summary of the methodological foundations and in-depth treatment of research best practices in behavioral research. Provides a comprehensive review of the research conducted over the past two decades in behavioral operations, including such classic topics as inventory management, supply chain contracting, forecasting, and competitive sourcing. Covers a wide-range of current topics and applications including supply chain risk, responsible and sustainable supply chain, health care operations, culture and trust. Connects existing bodies of behavioral operations literature with related fields, including psychology and economics. Provides a vision for future behavioral research in operations. Written for academicians within the operations management community as well as for behavioral researchers, The Handbook of Behavioral Operations offers a comprehensive resource for the study of how individuals make decisions in an operational context with contributions from experts in the field.

Since I wrote the Foreword for the second edition of this book, risk management processes have become much more widely used, but controversy about what should be done and how best to do it has grown. Managing risk is a risky business. Chapman and Ward provide an in-depth explanation of why it is important to understand and manage underlying uncertainty in all its forms, in order to realise opportunities more fully and enhance corporate performance. They show what best practice should look like. The implications go well beyond the conventional wisdom of project risk management, providing an enlightening new perspective. —Professor Tony M. Ridley Imperial College London, Past President, Institution of Civil Engineers Chris Chapman and Stephen Ward continue to educate the profession with this masterful exposition of the differences between, and the potentials for combinations of, risk, uncertainty and opportunity. Particularly welcome is the way they integrate this trio into the project lifecycle - the bedrock of project management control and organization. —Peter W.G. Morris Head of School and Professor of Construction and Project Management University College London Chris Chapman and Stephen Ward’s books on Project Risk Management have been an essential part of my repertoire for twenty years, and they are top of my recommended reading for the courses I do on that subject. In this book they have enhanced their previous work to focus on uncertainty management and emphasise more strongly opportunities for improving project performance, rather than just identifying what can go wrong. A structured process is an essential part of managing project uncertainty, and their process is one of the most powerful. This book will be added to my repertoire. —Rodney Turner Professor of Project Management, SKEMA Business School Lille A profoundly important book. With How to Manage Project Opportunity and Risk, Chris Chapman and Stephen Ward take a good thing and make it better. Members of the project management profession have been influenced for years by their insights into project risk management. With this latest instalment the authors demonstrate that risk and uncertainty needn’t be dreaded; in fact, the reverse side of the ‘risk coin’ has always been opportunity. My sincere appreciation to Chapman and Ward for turning this particular coin over and showing readers, academic and practitioner alike, the

opportunity embedded in managing projects. —Jeffrey K. Pinto Andrew Morrow and Elizabeth Lee Black Chair in Management of Technology Sam and Irene Black School of Business, Penn State Erie

Policy Shock examines how policy-makers in industrialized democracies respond to major crises. After the immediate challenges of disaster management, crises often reveal new evidence or frame new normative perspectives that drive reforms designed to prevent future events of a similar magnitude. Such responses vary widely - from cosmetically masking inaction, to creating stronger incentive systems, requiring greater transparency, reorganizing government institutions and tightening regulatory standards. This book situates post-crisis regulatory policy-making through a set of conceptual essays written by leading scholars from economics, psychology and political science, which probe the latest thinking about risk analysis, risk perceptions, focusing events and narrative politics. It then presents ten historically-rich case studies that engage with crisis events in three policy domains: offshore oil, nuclear power and finance. It considers how governments can prepare to learn from crisis events - by creating standing expert investigative agencies to identify crisis causes and frame policy recommendations.

A - D

Forecasting, Scheduling, and Risk Management

Wiley Encyclopedia of Operations Research and Management Science, 8 Volume Set

Advanced Workshop And Tutorials On Operations Research (AWTOR-2012)

Unmanned Aircraft Systems

Ranking of low-moisture foods in support of microbiological risk management: Meeting report and systematic review

Crisis is varied and unavoidable. We see crisis every day within organizations, governments, businesses and the economy. A true crisis differs from a 'routine' emergency, such as a water pipe bursting in the kitchen. Per one definition, "it is associated with urgent, high-stakes challenges in which the outcomes can vary widely (and are very negative at one end of the spectrum) and will depend on the actions taken by those involved". Successfully engaging, dealing with, and working through a crisis requires an understanding of options and tools for individual and joint decision making. The Encyclopedia of Crisis Management comprehensively overviews concepts and techniques for effectively assessing, analyzing, managing, and resolving crises, whether they be organizational, business, community, or political. From general theories and concepts exploring the meaning and causes of crisis to practical strategies and techniques relevant to crises of specific types, crisis management is thoroughly explored.

This book aims to clarify the priorities of the Sendai Framework for the DRR 2015 2030, through gathering recent contributions addressing the different ways researchers define, measure, reduce, and manage risk in the challenge of the DRR. Beyond a discussion of the different definitions of disaster risk; this book provides contributions focused on optimization approaches that support the decision-making process in the challenge of managing DRR problems considering emerging disaster risks in the medium and long term, as well as national and local applications. Some of the topics covered include network flow problems, stochastic optimization, discrete optimization, multi-objective programming, approximation techniques, and heuristic approaches. The target audience of the book includes professionals who work in Linear Programming, Logistics, Optimization (Mathematical, Robust, Stochastic), Management Science, Mathematical Programming, Networks, Scheduling, Simulation, Supply Chain Management, Sustainability, and similar areas. It can be useful for researchers, academics, graduate students, and anyone else doing research in the field.

Models and methods for operational risks assessment and mitigation are gaining importance in financial institutions, healthcare organizations, industry, businesses and organisations in general. This book introduces modern Operational Risk Management and describes how various data sources of different types, both numeric and semantic sources such as text can be integrated and analyzed. The book also demonstrates how Operational Risk Management is synergetic to other risk management activities such as Financial Risk Management and Safety Management. Operational Risk Management: a practical approach to intelligent data analysis provides practical and tested methodologies for combining structured and unstructured, semantic-based data, and numeric data, in Operational Risk Management (OpR) data analysis. Key Features: The book is presented in four parts: 1) Introduction to OpR Management, 2) Data for OpR Management, 3) OpR Analytics and 4) OpR Applications and its Integration with other Disciplines. Explores integration of semantic, unstructured textual data, in Operational Risk Management. Provides novel techniques for combining qualitative and quantitative information to assess risks and design mitigation strategies. Presents a comprehensive treatment of "near-misses" data and incidents in Operational Risk Management. Looks at case studies in the financial and industrial sector. Discusses application of ontology engineering to model knowledge used in Operational Risk Management. Many real life examples are presented, mostly based on the MUSING project co-funded by the EU FP6 Information Society Technology Programme. It provides a unique multidisciplinary perspective on the important and evolving topic of Operational Risk Management. The book will be useful to operational risk practitioners, risk managers in banks, hospitals and industry looking for modern approaches to risk management that combine an analysis of structured and unstructured data. The book will also benefit academics interested in research in this field, looking for techniques developed in response to real world problems.

The complete and authoritative guide to modern packaging technologies —updated and expanded From A to Z, The Wiley Encyclopedia of Packaging Technology, Third Edition covers all aspects of packaging technologies essential to the food and pharmaceutical industries, among others. This edition has been thoroughly updated and expanded to include important innovations and changes in materials, processes, and technologies that have occurred over the past decade. It is an invaluable resource for packaging technologists, scientists and engineers, students and educators, packaging material suppliers, packaging converters, packaging machinery manufacturers, processors, retailers, and regulatory agencies. In addition to updating and improving articles from the previous edition, new articles are also added to cover the recent advances and developments in packaging. Content new to this edition includes: Advanced packaging materials such as antimicrobial materials, biobased materials, nanocomposite materials, ceramic-coated films, and perforated films Advanced packaging technologies such as active and intelligent packaging, radio frequency identification (RFID), controlled release packaging, smart blending, nanotechnology, biosensor technology, and package integrity inspection Various aspects important to packaging such as sustainable packaging, migration, lipid oxidation, light protection, and intellectual property Contributions from experts in all-important aspects of packaging Extensive cross-referencing and easy-to-access information on all subjects Large, double-column format for easy reference

Market Operations in Electric Power Systems

A Practical Approach to Intelligent Data Analysis

Managing Emerging Health Threats, Making Reasoned Choices, and Allocating Scarce Resources

Ensuring Open Science at EPA

The Wiley Encyclopedia of Energy and the Environment

Monte Carlo simulation is one of the best tools for performing realistic analysis of complex systems as it allows most of the limiting assumptions on system behavior to be relaxed. The Monte Carlo Simulation Method for System Reliability and Risk Analysis comprehensively illustrates the Monte Carlo simulation method and its application to reliability and system engineering. Readers are given a sound understanding of the fundamentals of Monte Carlo sampling and simulation and its application for realistic system modeling. Whilst many of the topics rely on a high-level understanding of calculus, probability and statistics, simple academic examples will be provided in support to the explanation of the theoretical foundations to facilitate comprehension of the subject matter. Case studies will be introduced to provide the practical value of the most advanced techniques. This detailed approach makes The Monte Carlo Simulation Method for System Reliability and Risk Analysis a key reference for senior undergraduate and graduate students as well as researchers and practitioners. It provides a powerful tool for all those involved in system analysis for reliability, maintenance and risk evaluations.

This book offers a comprehensive guide to the modelling of operational risk using possibility theory. It provides a set of methods for measuring operational risks under a certain degree of vagueness and impreciseness, as encountered in real-life data. It shows how possibility theory and indeterminate uncertainty-encompassing degrees of belief can be applied in analysing the risk function, and describes the parametric g-and-h distribution associated with extreme value theory as an interesting candidate in this regard. The book offers a complete assessment of fuzzy methods for determining both value at risk (VaR) and subjective value at risk (SVaR), together with a stability estimation of VaR and SVaR. Based on the simulation studies and case studies reported on here, the possibilistic quantification of risk performs consistently better than the probabilistic model. Risk is evaluated by integrating two fuzzy techniques: the fuzzy analytic hierarchy process and the fuzzy extension of techniques for order preference by similarity to the ideal solution. Because of its specialized content, it is primarily intended for postgraduates and researchers with a basic knowledge of algebra and calculus, and can be used as reference guide for research-level courses on fuzzy sets, possibility theory and mathematical finance. The book also offers a useful source of information for banking and finance professionals investigating different risk-related aspects.

This remarkable volume highlights the importance of Production and Operations Management (POM) as a field of study and research contributing to substantial business and social growth. The editors emphasize how POM works with a range of systems—agriculture, disaster management, e-commerce, healthcare, hospitality, military systems, not-for-profit, retail, sports, sustainability, telecommunications, and transport—and how it contributes to the growth of each. Martin K. Starr and Sushil K. Gupta gather an international team of experts to provide researchers and students with a panoramic vision of the field. Divided into eight parts, the book presents the history of POM, and establishes the foundation upon which POM has been built while also revisiting and revitalizing topics that have long been essential. It examines the significance of processes and projects to the fundamental growth of the POM field. Critical emerging themes and new research are examined with open minds and this is followed by opportunities to interface with other business functions. Finally, the next era is discussed in ways that combine practical skill with philosophy in its analysis of POM, including traditional and nontraditional applications, before concluding with the editors' thoughts on the future of the discipline. Students of POM will find this a comprehensive, definitive resource on the state of the discipline and its future directions. If risk aversion and willingness to take on risk are driven by emotions and we as humans are bad at correctly identifying them, the finance profession has a serious challenge at hand—how to reliably identify the individual risk profile of a retail investor or high-net-worth individual. In this series of CFA Institute Research Foundation briefs, we have asked academics and practitioners to summarize the current state of knowledge about risk profiling in different key areas.

The Handbook of Behavioral Operations

Quantitative Risk Analysis of Air Pollution Health Effects

The Monte Carlo Simulation Method for System Reliability and Risk Analysis

Handbook of Safety Principles

Encyclopedia of Quantitative Finance

Breakthroughs in Decision Science and Risk Analysis

Causal analytics methods can revolutionize the use of data to make effective decisions by revealing how different choices affect probabilities of various outcomes. This book presents and illustrates models, algorithms, principles, and software for deriving causal models from data and for using them to optimize decisions with uncertain outcomes. It discusses how to describe and summarize situations; detect changes; evaluate effects of policies or interventions; learn what works best under different conditions; predict values of as-yet unobserved quantities from available data; and identify the most likely explanations for observed outcomes, including surprises and anomalies. The book resents practical techniques for causal modeling and analytics that practitioners can apply to improve understanding of how choices affect probabilities of consequences and, based on this understanding, to recommend choices that are more likely to accomplish their intended objectives.The book begins with a survey of modern analytics methods, focusing mainly on techniques useful for decision, risk, and policy analysis. Chapter 2 introduces free in-browser software, including the Causal Analytics Toolkit (CAT) software, to enable readers to perform the analyses described and to apply modern analytics methods easily to their own data sets. Chapters 3 through 11 show how to apply causal analytics and risk analytics to practical risk analysis challenges, mainly related to public and occupational health risks from pathogens in food or from pollutants in air. Chapters 12 through 15 turn to broader questions of how to improve risk management decision-making by individuals, groups, organizations, institutions, and multi-generation societies with different cultures and norms for cooperation. These chapters examine organizational learning, community resilience, societal risk management, and intergenerational collaboration and justice in managing risks.

Low-moisture foods (LMF) are foods that are naturally low in moisture or are produced from higher moisture foods through drying or dehydration processes. These foods typically have a long shelf life and have been perceived for many years to not represent microbiological food safety risk hazards. However, in recent years, a number of outbreaks of foodborne illnesses linked to LMF has illustrated that despite the fact that microorganisms cannot grow in these products, bacteria do have the possibility to persist for long periods of time in these matrices. Responding to a request from the Codex Committee on Food Hygiene (CCFH), the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) implemented a series of activities aimed at collating and analysing the available information on microbiological hazards related to LMF and ranking the foods of greatest concern from a microbiological food safety perspective. Seven categories of LMF which were ultimately included in the ranking process, and the output of the risk ranking, in descending order was as follows: cereals and grains; dried protein products; spices and dried herbs; nuts and nut products; confections and snacks; dried fruits and vegetables; and seeds for consumption.

In today's global economy, operations strategy in supply chains must assume an ever-expanding and strategic role of risks. These operational and strategic facets entail a brand new set of operational problems and risks that have not always been understood or managed very well. This book provides the means to understand, to model and to analyze these outstanding issues and problems that are the essential elements in managing supply chains today.

Apparel is one of the oldest and largest export industries in the world. It is also one of the most global industries because most nations produce for the international textile and apparel market. The changing global landscape drives cost volatility, regulatory risk and change in consumer preference. In today's retail landscape, media and advocacy groups have focussed attention on social and environmental issues, as well as new regulatory requirements and stricter legislations. Understanding and managing any risk within the supply chain, particularly ethical and responsible sourcing, has become increasingly critical. This book first gives a systematic introduction to the evolution of SCRM through literature review and discusses the importance of SCRM in the apparel industry. Second, it describes the life cycle of the apparel supply chain and defines the different roles of the value chain in the apparel industry. Thirdly, it identifies the risk factors in the Apparel Life Cycle and analyses the risk sources and consequences and finally, extends the importance of selection of the suppliers and develops a supplier selection model and SCRM strategies solution by data analysis and case studies.

Risk Profiling and Tolerance: Insights for the Private Wealth Manager

The Wiley Encyclopedia of Packaging Technology

In the Chemical and Process Industry

Risk Management and Financial Institutions

Security Risk Management Body of Knowledge

Causal Analytics for Applied Risk Analysis

Presents recent breakthroughs in the theory, methods, and applications of safety and risk analysis for safety engineers, risk analysts, and policy makers Safety principles are paramount to addressing structured handling of safety concerns in all technological systems. This handbook captures and discusses the multitude of safety principles in a practical and applicable manner. It is organized by five overarching categories of safety principles: Safety Reserves; Information and Control; Demonstrability; Optimization; and Organizational Principles and Practices. With a focus on the structured treatment of a large number of safety principles relevant to all related fields, each chapter defines the principle in question and discusses its application as well as how it relates to other principles and terms. This treatment includes the history, the underlying theory, and the limitations and criticism of the principle. Several chapters also problematize and critically discuss the very concept of a safety principle. The book treats issues such as: What are safety principles and what roles do they have? What kinds of safety principles are there? When, if ever, should rules and principles be disobeyed? How do safety principles relate to the law; what is the status of principles in different domains? The book also features: • Insights from leading international experts on safety and reliability • Real-world applications and case studies including systems usability, verification and validation, human reliability, and safety barriers • Different taxonomies for how safety principles are categorized • Breakthroughs in safety and risk science that can significantly change, improve, and inform important practical decisions • A structured treatment of safety principles relevant to numerous disciplines and application areas in industry and other sectors of society • Comprehensive and practical coverage of the multitude of safety principles including maintenance optimization, substitution, safety automation, risk communication, precautionary approaches, non-quantitative safety analysis, safety culture, and many others The Handbook of Safety Principles is an ideal reference and resource for professionals engaged in risk and safety analysis and research. This book is also appropriate as a graduate and PhD-level textbook for courses in risk and safety analysis, reliability, safety engineering, and risk management offered within mathematics, operations research, and engineering departments. NIKLAS MÖLLER, PhD, is Associate Professor at the Royal Institute of Technology in Sweden. The author of approximately 20 international journal articles, Dr. Möller's research interests include the philosophy of risk, metaethics, philosophy of science, and epistemology. SVEN OVE HANSSON, PhD, is Professor of Philosophy at the Royal Institute of Technology. He has authored over 300 articles in international journals and is a member of the Royal Swedish Academy of Engineering Sciences. Dr. Hansson is also a Topical Editor for the Wiley Encyclopedia of Operations Research and Management Science. JAN-ERIK HOLMBERG, PhD, is Senior Consultant at Risk Pilot AB and Adjunct Professor of Probabilistic Riskand Safety Analysis at the Royal Institute of Technology. Dr. Holmberg received his PhD in Applied Mathematics from Helsinki University of Technology in 1997. CARL ROLLENHAGEN, PhD, is Adjunct Professor of Risk and Safety at the Royal Institute of Technology. Dr. Rollenhagen has performed extensive research in the field of human factors and MTO (Man, Technology, and Organization) with a specific emphasis on safety culture and climate, event investigation methods, and organizational safety assessment.

In this thesis, Iris Heckmann develops a profound conceptual basis of supply chain risk analytics. She transfers the newly defined concepts for the modelling and operationalization of supply chain risk within simulation and optimization approaches, in order to ease unexpected deviations and disruptions, which are subsumed under the notion of supply chain risk, increasingly aggravating the planning and optimization of supply chains.

The most complete, up-to-date guide to risk management in finance Risk Management and Financial Institutions, Fifth Edition explains all aspects of financial risk and financial institution regulation, helping you better understand the financial markets—and their potential dangers. Inside, you'll learn the different types of risk, how and where they appear in different types of institutions, and how the regulatory structure of each institution affects risk management practices. Comprehensive ancillary materials include software, practice questions, and all necessary teaching supplements, facilitating more complete understanding and providing an ultimate learning resource. All financial professionals need to understand and quantify the risks associated with their decisions. This book provides a complete guide to risk management with the most up to date information. • Understand how risk affects different types of financial institutions • Learn the different types of risk and how they are managed • Study the most current regulatory issues that deal with risk • Get the help you need, whether you're a student or a professional Risk management has become increasingly important in recent years and a deep understanding is essential for anyone working in the finance industry; today, risk management is part of everyone's job. For complete information and comprehensive coverage of the latest industry issues and practices, Risk Management and Financial Institutions, Fifth Edition is an informative, authoritative guide.

A framework for formalizing risk management thinking intoday's complex business environment Security Risk Management Body of Knowledge details thesecurity risk management process in a format that can easily beapplied by executive managers and security risk managementpractitioners. Integrating knowledge, competencies, methodologies,and applications, it demonstrates how to document and incorporatebest-practice concepts from a range of complementarydisciplines. Developed to align with International Standards for RiskManagement such as ISO 31000 it enables professionals to applysecurity risk management (SRM) principles to specific areas ofpractice. Guidelines are provided for: Access Management; BusinessContinuity and Resilience; Command, Control, and Communications;Consequence Management and Business Continuity Management;Counter-Terrorism; Crime Prevention through Environmental Design;Crisis Management; Environmental Security; Events and MassGatherings; Executive Protection; Explosives and Bomb Threats;Home-Based Work; Human Rights and Security; Implementing SecurityRisk Management; Intellectual Property Protection; IntelligenceApproach to SRM; Investigations and Root Cause Analysis; MaritimeSecurity and Piracy; Mass Transport Security; OrganizationalStructure; Pandemics; Personal Protective Practices; Psych-ology ofSecurity; Red Teaming and Scenario Modeling; Resilience andCritical Infrastructure Protection; Asset-, Function-, Project-,and Enterprise-Based Security Risk Assessment; SecuritySpecifications and Postures; Security Training; Supply ChainSecurity; Transnational Security; and Travel Security. Security Risk Management Body of Knowledge is supportedby a series of training courses, DVD seminars, tools, andtemplates. This is an indispensable resource for risk and securityprofessional, students, executive management, and line managerswith security responsibilities.

Recalibrating Risk and Regulation after Oil Spills, Nuclear Accidents and Financial Crises

Decision Making for Enhanced Health Security

Humanitarian Logistics from the Disaster Risk Reduction Perspective

Health threats pose significant dangers to humankind and form a major source of human suffering and sorrow. Responsible leadership and reasoned decision making can significantly improve the arenas that are affected by health threats, through establishing a better allocation of very scarce resources for building health capabilities and for increasing health preparedness, responsiveness and resilience. This book examines how public health leaders can use the cutting-edge research from Decision Sciences to better manage emerging and re-emerging health threats, with a focus on enhancing health security. While these decisions must be informed by the best available evidence, they must also address competing priorities and key uncertainties and must mitigate critical risks, albeit in a cost-effective manner which seeks to maximize societal value. This is a book about how decisions on health security can be improved, both in terms of the content that is utilized in a health decision analysis and the decision processes that are employed in reaching a decision. This decision-focused perspective can help public health leaders and public health experts to increase the health preparedness of health systems, the task of which involves improving health capabilities, increasing the robustness of health systems against health threats, as well as strengthening health resilience and the responsiveness of these systems against disease outbreaks.

This new Handbook addresses the state of the art in the application of operations research models to problems in preventing terrorist attacks, planning and preparing for emergencies, and responding to and recovering from disasters. The purpose of the book is to enlighten policy makers and decision makers about the power of operations research to help organizations plan for and respond to terrorist attacks, natural disasters, and public health emergencies, while at the same time providing researchers with one single source of up-to-date research and applications. The Handbook consists of nine separate chapters: Using Operations Research Methods for Homeland Security Problems Operations Research and Homeland Security: Overview and Case Study of Pandemic Influenza Deployed Security Games for Patrol Planning Interdiction Models and Applications Time Discrepant Shipments in Manifest Data Achieving Realistic Levels of Defensive Hedging Mitigating the Risk of an Anthrax Attack with Medical Countermeasures Service Networks for Public Health Preparedness and Large-scale Disaster Relief Efforts Disaster Response Planning in the Private Sector